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FOREIGN AFFAIRS

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SCHUMPETER'S HEIRS

COVER ILLUSTRATION: ANTHONY PETRIE

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Archibald Cary Coolidge, Founding Editor
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A decade out of Harvard, **JAMES BESSEN** wrote the first "WYSIWYG" desktop publishing software in 1983 and then founded a software company that he sold in 1993. Bessen's first book, *Patent Failure* (co-authored with Michael Meurer), threw a light on the problems of poorly defined property rights. His forthcoming book, *Learning by Doing*, explores the link between innovation and inequality. Now teaching at the Boston University School of Law, he argues in "The Anti-Innovators" (page 55) that established interests are stifling American innovation.

Born in Italy and educated in the United States and Mexico, **MARIANA MAZZUCATO** now holds the R. M. Phillips Chair in the Economics of Innovation at the University of Sussex, in the United Kingdom. Mazzucato regularly advises governments on how to promote innovation—a subject she tackles in her latest book, *The Entrepreneurial State*. In "The Innovative State" (page 61), Mazzucato argues that contrary to conventional wisdom, governments are in fact behind some of the world's biggest innovations.

HANS KUNDNANI studied philosophy at Oxford and worked as a writer in Berlin before becoming the research director at the European Council on Foreign Relations, where he specializes in German foreign policy. His first book, *Utopia or Auschwitz*, examined Germans of the so-called Auschwitz generation, whose parents were directly or indirectly responsible for the Holocaust. His next book, *The Paradox of German Power*, contemplates Germany's future in Europe. In "Leaving the West Behind" (page 108), he describes how Berlin may be pivoting east toward Beijing and Moscow.

SARAH MENDELSON first traveled to Russia as a high school exchange student in 1979. She returned there in the early 1990s to do research for her Ph.D. dissertation on the Soviet invasion of Afghanistan. After stints at various universities and think tanks, from 2010 to 2014, Mendelson was a deputy assistant administrator at the U.S. Agency for International Development. Now a senior adviser at the Center for Strategic and International Studies, Mendelson concludes in "Generation Putin" (page 150) that Russian democracy remains a long way off.

BESSEN PHOTO: MELISSA MULLEN

SCHUMPETER'S HEIRS

The Austrian economist Joseph Schumpeter put entrepreneurs at the center of his model of capitalism. Innovation was crucial to dynamism and growth, he argued, and entrepreneurs were the ones who made innovation happen. The "new combinations" of economic factors they brought together propelled the whole system onward and upward. Moreover, their efforts were anything but ordinary or easy: "To act with confidence beyond the range of familiar beacons and to overcome [society's] resistance requires aptitudes that are present in only a small fraction of the population."

A century on from his first writings on the subject, Schumpeter would be pleasantly surprised to learn that despite his sometimes gloomy predictions about creeping socialism and stagnation, entrepreneurs across the globe still continue in their revolutionary ways and his "perennial gale of creative destruction" continues to rage.

Others would be less pleased. Like diners in the old joke complaining about a restaurant where the food is terrible and the portions too small, they worry that not enough innovation is occurring these days and that what little there is subtracts jobs rather than adding them. Everybody wants more growth, more dynamism, and more broadly distributed benefits, but nobody seems to know how to get there.

So for our lead package this issue, we decided to do a deep dive into entrepreneurialism today—what it involves, what it accomplishes, what its impact is on the broader economy and society, what governments can do to encourage its spread and reap its benefits.

Our package begins with interviews with six leading practitioners: Jeff Bezos (founder of Amazon), Marcelo Claure (founder of Brightstar and now CEO of Sprint), Helen Greiner (founder of iRobot and CyPhy Works), Mo Ibrahim (founder of Celtel), Niklas Zennstrom (founder of Kazaa, Skype, and Atomico), and Michael Moritz (an early backer of Google, PayPal, Yahoo, and countless other tech giants).

Then, Robert Litan assesses the current state of entrepreneurialism in the United States; James Bessen describes how vested interests block entrepreneurial progress; Mariana Mazzucato explores the crucial role of government in spurring innovation; Bryan Mezue, Clayton Christensen, and Derek van Bever show how "market-creating innovation" can help the developing world; and James Surowiecki traces the entrepreneurial origins of the digital era.

Our conclusion: entrepreneurs may not be able to solve all of the world's economic problems, and they certainly can't do it by themselves—but Schumpeter was onto something, and we would all do well to listen.

—Gideon Rose, Editor

REUTERS / ELIJAH NOUVELAGE

The Man Who Sells Everything

A Conversation With Jeff Bezos

Jeff Bezos has always been a tinkerer. As a toddler, he tried to dismantle his crib, and in high school, he started his first business—an educational summer camp for middle schoolers. After graduating summa cum laude from Princeton in 1986 with a degree in electrical engineering and computer science, he went to work on Wall Street, but he quit finance in 1994 to try his hand as an entrepreneur. Amazon.com started as an online bookseller, selling its first copies in July 1995. In the years since, it has grown into a diversified retail giant, as well as a producer of consumer electronics, such as the Kindle, and a major provider of cloud-computing services. Bezos spoke to *Foreign Affairs* editor Gideon Rose in November.

What are the crucial qualities that make for a successful entrepreneur?

There are a few qualities that entrepreneurs benefit from. One is that view of divine discontent: How can you make something better? I think entrepreneurship and invention are pretty closely coupled. And inventors are always walking around the world thinking, "I'm kind of inured to this, but just because I'm used to it doesn't mean it can't be improved."

This interview has been edited and condensed.

That ability to look at things with a fresh mind, a beginner's mind, is very useful for entrepreneurs.

Entrepreneurs also benefit greatly from being willing to fail, willing to experiment. Good entrepreneurs tend to be stubborn on the vision but flexible on the details. They're persistent on what they're trying to accomplish, but they are willing to rewrite the details as needed as they learn and as things fail.

Another quality I would mention is passion for the mission, whatever it is. The very best products and services are always built by missionaries. They're people who are genuinely passionate about the arena and happy to be in it. Such people wake up in the morning thinking about that idea, thinking about that particular set of customer experiences or that service or product. They're doing that when they're in the shower, and they're doing that as they close their eyes at night. That's pretty different from the mentality of somebody just trying to get in on the Internet gold rush.

Most entrepreneurs and most start-ups fail; only a few become truly giant successes. Are there predictable things you can see in advance that separate the winners from the losers, or is success just a matter of luck and timing?

Certainly, good luck and good timing are huge components of outsized success in entrepreneurial endeavors. Lots of things have to go right, and the planets have to align; that certainly happened in Amazon's case. Our timing turned out to be very good. And so you can't sit down to write a business plan and say you're going to build a multibillion-dollar corporation; that's unrealistic. A

REUTERS / RICHARD BRIAN

Bezos in Las Vegas, November 2012

good entrepreneur has a business idea that they believe they can make work at a much more reasonable scale and then proceeds adaptively from there, depending on what happens.

When did you realize that Amazon would become the behemoth it is today?
One step at a time. There were early indications that we were onto something, even from the very beginning. The original business plan contemplated only books, and it contemplated growing a relatively small company. But shortly after launching, we had already sold books in all 50 states and 45 different countries. We were way ahead of our business plan.

And then, a couple of years after that, when we were still a very small company, we sent an e-mail message to about a thousand randomly selected customers and asked, "Besides the things we sell today, what would you like to see us sell?" The answers came back to that so long-tailed—people said, "Windshield wiper blades for my car," and so on and so on. It was very surprising. It was at that point—this is probably 1998—that we started to realize that perhaps we could sell a very wide selection of things using the methods that we had pioneered.

Is entrepreneurship a source of innovation and dynamism that benefits not just the entrepreneurs themselves but the economy and society more generally?
Yes, I think so. New inventions and things that customers like are usually good for society. They can be tough on incumbents, and so people who have built a business doing it the old way think it would be better if things could be more stable for longer periods of time. But you have to remember, new inventions are not inherently disruptive. Invention is only disruptive if customers say, "Hey, I like this better than the old way."

That kind of improvement for customers is often very good for society, even if it's difficult for people who are invested in the traditional methods.

So by that logic, is all creative disruption by definition a net plus? Because if it wasn't, then it wouldn't be going forward?
I'm always a little worried about words like "all" and "always" and "never." I'm sure there are exceptions. But I would say that, on balance, most successful innovations in the economy do tend to be good for society.

You've managed not only to create Amazon but also to periodically reinvent it. What are the keys to running a large business enterprise in an entrepreneurial way?
Corporate culture and the selection of people—and those are related. For a company at Amazon's scale to continue to invent and change, to build new things, it needs to have a culture that supports a willingness to experiment, a willingness to fail. I think it is very helpful to have a customer-obsessed culture.

There are other business strategies that work. You can be competitor-obsessed, and that leads to business strategies like close following. Close-following strategies can be good for businesses because you don't have to go down as many blind alleys and you get to let your competitors do the pioneering—and then, when something works, you can jump on it. But it doesn't lead to as much entrepreneurialism.

A pioneering culture, one that actually enjoys and is excited by experimentation, a culture that rewards experimentation even as it embraces the fact that it is going to lead to failure—that is very important for larger companies in order to be entrepreneurial. And a long-term orientation is a key part of that. If everything has to work this quarter, then you're by definition not going to be doing very much experimentation.

You started out 20 years ago as the little guy. Twenty years later, you're the big guy, dominating everything. Does the world look different from that perspective?
I don't know exactly how to answer that. I can tell you one thing, though: I am having so much fun. I run into the office every morning. I love every part of my job.

Does the state have any role to play in fostering entrepreneurialism, or is it simply a matter of the private sector being allowed to do what it needs to do?
Governments can foster and hinder experimentation. I'm not an expert in that arena, but I'm sure that's the case. I also think the culture in certain countries is a big factor. If you talk to entrepreneurs in the U.S., they're willing to take risks. If somebody does a start-up and it doesn't work out, they'll do another. There's no stigma associated with failure. That's not true all over the world. An acceptance that experimentation is associated with failure is a part of U.S. culture. It's not unique; other places have it as well. But it's strong in the U.S. and something that we should be incredibly happy about.

Increasingly, you see entrepreneurship taking off in other countries. Is this a zero-sum game Americans should be worried about, or is it good for the world that others are now starting to display the kind of technological entrepreneurship that used to be an American specialty?
It's great for the world, because we all benefit from each other's inventions. If somebody in Asia invents a new cure for some type of cancer, we're all going to benefit from that. The more innovation we can have in the world, the better off society is going to be.

So does Alibaba help Amazon or compete with it?
We have a long-standing practice of staying focused on our customers rather than our competitors. We try to be inspired by the things we see out in the world and wonder how they will enable us to improve the lives of our customers.

Do you worry about what some have called "the death of innovation" or "the great stagnation," or do you think that technology and innovation are moving forward to ever-greater heights down the road?
We live in a dynamic time, where the rate of change and the rate of innovation are very high. It's not equal in all segments or sectors of the economy, but we are seeing a lot of innovation in certain sectors, and I expect that to continue. The great thing about ideas is that every new idea leads to two more new ones. It's the opposite of a gold rush, where the more people who show up in 1849 to get that gold in California, the faster the gold runs out. Ideas are not like that; ideas breed.

Some people have argued that Amazon does well by its customers, but not so well for small businesses. Do you think that argument has any validity? Do you lose sleep over the consequences for other businesses trying to compete with you?
I think we are very empowering to certain small businesses. Probably some of the most impactful inventions that we've done are those that empower other companies. For example, our third-party-seller business: we have millions of small sellers who get access to our prime retail real estate and get to compete against us and sell right alongside us. That technology has been a facilitator for millions of small businesses.

Kindle—we call it KDP, Kindle Direct Publishing—is another self-service platform that has been incredibly empowering to a whole set of creators: authors who have never been able to get distribution before.

And AWS [Amazon Web Services, the company's cloud-computing division], because it transforms capital expense and fixed expense into a variable cost, has been a tremendous enabler of hundreds of thousands of small businesses that use it to lower their data center costs and increase their nimbleness. AWS sells services to software developers, software engineers, and companies that employ them. It has grown into a very significant, and very exciting, business for us over time and is a very important piece of infrastructure for the Internet and for many enterprises and many government agencies.

All of these things are very good for small business, and we're very proud of that. There are competitors out there, and I'm sure in some cases, they wish we didn't do what we do. I know how to make our competitors happy: raise prices, slow delivery speeds, and reduce selection. But that's not what our customers want us to do.

You started out selling books. Now you're the subject of them. Do you read the books written about you, and if so, what do you think of them?
Amazon has been so well treated, on balance, by the media that, for myself and for all the people I work with, we try to keep an even keel, and a deep keel, on matters like that. When the PR is good, don't believe it; and when it's the opposite way, don't believe that either.

The Art of the Cell

A Conversation With Marcelo Claure

A native of La Paz, Bolivia, Marcelo Claure graduated from Bentley College, in Waltham, Massachusetts, in 1993 with a degree in economics. His first job afterward was with the Bolivian Football Federation. A year later, the Bolivian national soccer team landed a spot in the World Cup, and Claure, back in Massachusetts, landed a partial stake in USA Wireless, which he built into a leading wireless retailer in New England. Three years later, he struck out on his own and founded Brightstar, a Miami-based cell-phone distributor specializing in the Latin American market. By 2013, it was the 55th-largest private company in the United States. Then the Japanese telecommunications company SoftBank took a majority stake in Brightstar, and SoftBank's founder, Masayoshi Son, installed Claure as CEO of another one of his properties, Sprint. In November, Claure spoke to *Foreign Affairs* deputy managing editor Stuart Reid at Sprint's headquarters, in Overland Park, Kansas.

You got one of your first jobs through a chance meeting on an airplane.

I was flying back down to Bolivia, just like any other Bolivian student who went to school in the U.S. who's not allowed to stay. On the plane, I met the newly elected president of the Bolivian Football Federation, and we hit it off. He told me about his project of wanting to take Bolivia to the World Cup, and by the end of the trip, he had offered me a job.

It was the lowest-paying job I would get. But it exposed me to a world that very few other people ever have a chance to see. Going to the World Cup was the biggest entrepreneurial dream that Bolivia has ever had. It was like starting a business from scratch and making it the biggest business in history. And we opened the World Cup back in 1994 in Soldier Field. People always say, "Hey, Marcelo got lucky." The way I look at it is that entrepreneurs have a higher return on luck than anybody else—because we all have this lucky moment in life; it's whether you know how to leverage and take advantage of it.

How did you get into the mobile business?

I saw very little opportunity in my country, so I came back here. I was dating the woman who became my first wife, and I wanted to be back in Boston, where I went to school. I went to apply for a job at Merrill Lynch, and I told the interviewer the whole story about the World Cup, and he said, "You have to meet my boss. Give me your cell-phone number." I didn't have one, so I said, "It's in my car. I'll call you on it from there."

So then I went with a friend to find a cell-phone store. The first one we went to was closed, so we went to another one. We passed the store. You're not allowed to reverse on a highway, but I told my friend, "Please reverse." I met

This interview has been edited and condensed.

WORLD ECONOMIC FORUM / MONIKA FLUECKIGER

Claure in Switzerland, January 2012

the owner, and he told me that he was tired of being in the business, and he invited me to buy in. I didn't have much money, so I gave him all I had and got him to finance me for the rest. He had two stores, one on Route 9 and another on Newbury Street. He handed me the keys and said, "After your story with the World Cup team, you can probably do a better job than me running this." So a few weeks after arriving back in the U.S., I was a proud owner of my own little business.

What did you do that was different from what he did?
A lot of things. I figured out that if you had only two stores, you were pretty much irrelevant. I realized that if I wanted to grow, I would have to open 100 or 200 stores, which would have been very difficult. When I was in college, Domino's Pizza claimed, "Order a pizza, and we'll deliver within 30 minutes or it's free." So I put in a 1-800 line and took out a full-page ad in the *Boston Herald* offering to deliver phones for free.

That first day, we were so excited, because we were betting everything we had on the ad. Our staff of six or seven went in at 6 AM. We had our phones lined up at a table—no call center, no fancy operation. And from the window, I could see that the seven lines were all lit up. I was like, "Wow!"

We sold so many phones that day that at 7 PM, we just shut it down, because it was crazy. We only had about five or six drivers, and it was impossible. So I called all my friends, my wife, everybody that I knew, and I said, "I need a favor." We delivered the phones from 7 to 11 PM. The following day, the cycle started again. Then, realizing that people called 24 hours a day, we made our call center be open 24 hours, and we got a bunch of drivers spread all over Massachusetts.

And in 1997, you founded Brightstar.
I used to always get my phones from two companies—BrightPoint and CellStar—and they offered such bad service. Sometimes they never delivered the phones, or shipped to the wrong address. They were huge, publicly traded companies, and I figured, if these guys are so bad in the U.S., I can only imagine how bad they must be in Latin America. So I said, "Well, I'm just going to call myself Brightstar, and I'm going to start Brightstars in Latin America. I'm going to buy phones and resell them to customers and offer a better service."

What opening did you see in Latin America?
The complexities of the market. In the U.S., it's easy to do business. Federal Express will deliver phones everywhere. You just call an 800 number, and a truck shows up. Latin America is a different game. If you were a carrier in Latin America, you had to forecast ahead of time, open a letter of credit, buy the phones in the U.S., call a trucking company to take them to Miami, fly them into your home country, clear customs, and exchange currency. I thought, "This is so complex. I can simplify this for my customers."

That's when I learned a huge lesson: that companies that are easy to do business with will always win. Simplicity is the key attribute of winning businesses. If you were a carrier in Colombia, you could buy your phones from Motorola in a very complex way, or you could buy them from

Brightstar, where we took care of all the complexities. We had a distribution center, and we would deliver straight to your stores. You could forget about one of your main problems, which was inventory. That worked in Colombia, in Bolivia, in Brazil, in Chile—we just kept opening one after the other.

Then came probably the biggest challenge. One of my partners back then, Motorola, said, "Do you think you can replicate what you've done in Latin America in the U.S. market?" That doesn't happen a lot for Latin American companies, especially service companies. So we came to the U.S., did the same thing, and became the leading cell-phone distributor and supply-chain company in America. I remember I was so proud when a tiny little carrier in Bolivia called Telecel let us manage their supply chain. But I was prouder when Verizon came in the U.S. and said, "Hey, manage my entire supply chain to all of the national retailers—the Walmarts, the Best Buys—and to all my dealers." I wondered, "Should we tell them no, because we don't have the capability?" But then I said to myself, "In Colombia, I had ten people calling each store and saying, 'Hey, what did you sell the day before?' It's a lot easier here; we can just ask Walmart what they sold."

Do you think companies and investors are still overlooking Latin America?

I call Latin America "the almost region." We're almost there, and then something happens. Brazil has all the potential, but it's very hard to make money in Brazil if you're not a Brazilian company. The government makes it so hard—the tax system, the lack of logistics. Mexico is similar. Central America is similar. You have these countries that have great potential, but there's always a reason the countries never explode into the growth that's expected. Brazil and Mexico should be leading the world, because they have everything that you need to be successful: a huge internal market and amazing natural resources. But then protectionism comes into play.

What are some of the obstacles you encountered in developing countries?

When there's more risk, there's more opportunity. Where the rules of the road are not there, then there's a tremendous amount of opportunity for entrepreneurs to bring in their innovation and their different way of thinking.

For example, Argentina is a country where a lot of people didn't want to invest. One afternoon, I got invited to have lunch with President [Cristina] Fernández [de Kirchner]. She said, "I have a vision: I want to build a cell-phone manufacturing plant in Argentina, but I want to build it in the Patagonia. The reason is that everybody's coming to the city, because there are no jobs." And she said, "In exchange, I will give you some economic incentives."

You can rest assured that she probably went first to a lot of more sophisticated, factory-like companies—unlike ours, which had never manufactured anything. So we did our first factory, and it ended up being the largest cell-phone factory in Latin America outside of Brazil. When I left Brightstar, we were doing eight million to nine million phones a year. We created thousands and thousands of new employees, who stayed within the Patagonia. When the rules are really clear, traditional companies will occupy that market. When the rules are not written, that's where disruptors come in.

Did you find it easier operating in certain countries as opposed to others?
Easier equals less risk and lower profitability. The U.S. is probably the easiest country in the world to operate in. Most of the time, there are clear rules of engagement. The laws are clear. There's transportation. There's logistics. What mature countries, like the U.S., offer is a platform for a different type of innovation. But the new entrepreneurs today are emerging in different types of economies. In places, like China, that are very complex to do business in, that's where you have the creation of Alibaba. That's where you have the creation of [the electronics manufacturer] Xiaomi. So even though there are certain markets that are easier to operate in, that doesn't necessarily guarantee that you're going to be more successful.

Did you ever encounter any problems with leftist governments in Latin America that weren't friendly to foreign businesses?
We did. I met with President [Hugo] Chávez at one point, because he was very concerned that Brightstar had a 70 percent share of the Venezuelan market. He said, "Explain that to me, when you're an American company." I said, "No, we're not an American company. We are a Venezuelan company, with Venezuelan employees, with a Venezuelan leader, owned by an American company, and that is very different."

Is creative destruction always a net plus for the economy, for society, and for employment?
It depends what side you see it from. Mobile phones have made sure that other industries almost disappear. You don't find cameras anymore, unless it's for high-quality professional photography. The mobile phone is eliminating video cameras, and it's going to continue to eliminate a lot of other things. There are no more photo albums. Everything sits in the cloud, thanks to a mobile phone. Has this been productive for the most important part of the economy, the consumer? Absolutely. Now, if you are on the side that is creating, it's great for you. If you're on the side that's being attacked—if you're Kodak—it's not. But net-net, it is always going to be a positive for the economy as long as the consumer benefits.

What can governments do to increase the scale and quality of entrepreneurship in their countries?
There's a lot that can be done with policy. Some countries have done an incredible job attracting entrepreneurs. There's a reason there are pockets of innovation in Israel: it has a pro-innovation, pro-entrepreneurial government. When you put entrepreneurs together in a certain place, it's amazing the level of innovation that takes place.

There are also a lot of countries that close their borders and don't foster innovation, and you never see great companies come out of them. I'm very opinionated about immigration. In the U.S., we are doing ourselves tremendous damage by having such bad immigration policies. We have built the best educational institutions on the planet, and we educate the brightest minds from all countries, and then we kick them out when they want to stay here. I think well-planned and well-executed immigration reforms, especially for students, would be one of the biggest drivers of entrepreneurship and innovation—something as simple as allowing the bright minds we've educated to stay and contribute to the American economy.

Has your experience as an immigrant helped you?
It gave me a huge advantage. Being an immigrant is the best of both worlds. You're programmed two different ways. You're bringing the best from your culture—and Hispanic culture has so many great things—and mixing it with the greatest country in the world. That gives us an advantage in comparison to somebody who was born in the U.S., went to school here, and the U.S. is all they've seen. We've seen the other side.

What values did you bring from Latin America?
The family is perceived differently there. It's the most important foundation. My father invested all his life savings into making sure his kids went through education. In comparison, my [American] friends all had loans from universities. In the American family, most of the time, at age 18, the responsibility ends—not the parenthood but the support. In Latin families, the responsibility never ends.

Latin America has very few success stories. I wanted to make sure that I won. I wanted to make sure that I became the most successful Bolivian immigrant ever. I felt that I could be an inspiration to my country. The results have been amazing. When I go to Bolivia, people say, "Wow, if you can do it, I can do it." And believing in yourself is probably one of the most basic things that allows advancement.

What are the most important qualities for an entrepreneur to have?
You've got to have a passion for what you do. If you love what you do, you're going to do things that others don't do. You're going to work harder than the rest. You're going to set lofty goals that others wouldn't. You're going to learn how to take calculated risks.

You're now the CEO of a large company that you didn't found yourself. Is it possible to manage such a company entrepreneurially?
Leading a company of this magnitude is very different from leading a company that you founded. Your ability to influence change is very different. As an entrepreneur and a founder, you are automatically granted the respect and authority that you need to make decisions, and people follow. Here, you need to earn that from your employees, who don't know you. And the speed at which they react is completely different. You have to influence change through your management team, and your management team influences change through the third layer, and the third layer influences change to the fourth layer. When it's your own company, you influence change from you all the way down to any layer you want. Everybody knows you, and everybody has seen your growth.

I think I bring to Sprint the ability to make decisions from an entrepreneurial perspective. In corporate America, you're paid not to take risks, because if you take risks and you fail, you get fired. An entrepreneur looks at it completely differently. We're able to advance by taking more risks than a normal corporate CEO would.

Entrepreneurs ask the question, why not? I came here and said, "Our pricing—it's completely out of whack. We have lost relevance. Nobody wants to buy a Sprint phone." I said, "Why don't we do leasing?" My whole team said, "We've got to test it in the market, make sure our systems work at 100 percent," etc. And I said, "We're going to launch it in four days with no testing, and we're going to figure it out as we go." You follow your gut. You know that if you can make it cheaper for consumers to have the latest iPhone 6, consumers are going to jump. It doesn't need to be analyzed by 100 people 50 times over. You can launch things being 70 percent right. They don't need to be 100 percent right.

That's the entrepreneurial approach that I've given to Sprint. We have changed our pricing and made it attractive. And we've just had the first month in the last few years in which we have more customers coming in than leaving.

You're trying to bring a soccer team to Miami. Why?

Soccer is David versus Goliath. Soccer is the only sport in the world where the rules of size and scale don't apply. A small country like Uruguay, which has less than four million people, can beat a country that has 70 million people. In basketball, if the best players in the U.S. play against any other country in the world, they will win 99 times out of 100. In soccer, the underdog pretty much has the same odds as the really, really big teams. That's why I bought the largest team in Bolivia, and why we almost became champions of Latin America last year, when we weren't supposed to.

I see soccer as being the most important sport in the U.S. 20 to 30 years from now. Miami doesn't have a soccer team. I met David Beckham, and he invited me to be his partner. The team should have a lot of value in the future. I see it as a great opportunity to co-invest in that team and do something that I love.

She, Robot

A Conversation With Helen Greiner

Born in the United Kingdom, Helen Greiner moved to the United States with her parents when she was five. In 1990, soon after getting a bachelor's degree in mechanical engineering and a master's in computer science, both from MIT, she teamed up with a professor and a fellow student to found iRobot, a company devoted to making practical robots for consumers, businesses, and the military. Among its many products, the company developed the PackBot, a small mobile robot that can scout out dangerous situations, and the Roomba, a vacuuming robot designed for home use. The company went public in 2005. In 2008, Greiner left to found CyPhy Works, a start-up focusing on flying robots, or drones. *Foreign Affairs* editor Gideon Rose spoke to her in early November.

What first got you interested in robots?
When I was 11, I went to the cinema and saw *Star Wars* and fell in love with R2-D2—because he had a character, a personality, an agenda to save the universe. He seemed more than a machine. I've been intrigued with building things that are more than machines ever since.

Is it true that you were crushed when you found out there was actually a person inside?
Yes. I was quizzing my brother on *Star Wars* trivia—he had learned it all—and when we got to the fact that Kenny Baker played R2-D2, I said, "What do you mean, someone played R2-D2? I thought it was a robot!" (By the way, we learned in the first episodes that R2-D2 actually got around by flying, because he couldn't get around those jungles, or Tatooine, or up stairs with the rolling. So that's why I had to do flying robots.)

What are the most important qualities for a successful entrepreneur?
Persistence—just in case that first idea you have isn't the one that is a billion-dollar idea. Being able to keep at it and get through any roadblocks.

How has that played out in your own career? What did you need persistence to overcome?
Well, we started iRobot in 1990, and it wasn't until 1998 that we took the first investment capital. It wasn't until 2005 that we took it public. It was the longest overnight success you'll ever see.

Most start-ups fail; most entrepreneurs don't succeed. A lot of people can be persistent, but they can persistently fail. Is success just a matter of luck and timing?
I don't think it's just luck and timing; it's more about being able to have a great idea but also have the right timing for it. Uber, for example, wouldn't have been successful in the '90s, because people weren't carrying smartphones.

It's the same with the robots. A great example is drone delivery. It's something to be thinking about now, but it's probably not something to do now, because some of the technology hasn't been created and some regulatory and cultural barriers are still there. So our strategy is to put the

This interview has been edited and condensed.

GETTY IMAGES / WIN McNAMEE

Greiner in Washington, D.C., June 2007 pieces in place now, get the technologies ready, so that we're ready to do it in five years, because that's when I think the timing is going to be right.

I'm not saying I've always been successful in this. For example, I tried to do an Internet-connected robot in 2000. You see wonderful Internet-connected robots today from VGo, Suitable Technologies, Double Robotics, and a few others. But I tried to do it in 2000. It wasn't a bad idea; I believe that people will use telepresence to do all kinds of things. But the timing was off; it was way too soon. People didn't even have always-on Internet connections in most homes. The Internet didn't have the optical switching networks that it has today. So I've learned over the years that it's not just about the idea; it's about the timing of the idea as well.

So entrepreneurs mix vision and practicality?

Yes, and that's exactly where I like to play, because you could spend your life being the very, very first [and never getting anywhere]. Good entrepreneurs pick the timing—not the timing of what you can do with current technology but what you're going to be able to do a few years from when you start. That way it all comes together, as the technology's ready, the market's ready, and everything's in place to put forward a successful product.

Is that a different attitude toward innovation in robotics from what used to be the case?

It used to be that robots were laboratory demonstrations, and you would get together, and everyone would see a robot do something really cool: "Ooh, ah, the robot's doing something. It's great." What we did to change that was really get robots into the hands of regular people. They could be for regular soldiers, in a form that's rugged, reliable, and easy to use, or in people's homes, so they're not some esoteric technology but a practical device that people have around and use every day.

So the discipline of making a commercially viable product helps make you a better roboticist?

I think it does. Because robotic ideas are a dime a dozen, and robotic demonstrations kind of follow that. It takes a lot of nights and a lot of sweat to get a robotic demonstration done, but it's when you're making a product that you have to worry about things like liability, supply chains, logistics, all the different aspects of actually getting it into people's hands. There are ten million plus Roombas out there, which has changed the feel from just being about, "Oh, the robot's doing something; look at it!" People are using them. People have them in their homes. People see robots are helpful.

What is the relationship between entrepreneurship and innovation?

You can have innovation without entrepreneurship, but I don't think you can have entrepreneurship without innovation. It doesn't have to be the type of innovation that we do, building things that are completely new from a technical point of view, but it has to have some innovation behind it for the entrepreneur to succeed.

Some economists argue that entrepreneurs are great men and women whose activities create dynamism and are

crucial for broader economic growth and development. Do you agree with that?
I don't know if they're great men and women. They're people that have a bee in their bonnet about something. Like, I want robots to exist. That's why I'm an entrepreneur. I passionately want the world filled with robots.

So your starting point is not, "Here's a problem robots can solve," but, "I like robots, and I want to see more of them"?
Yes, but remember, I started when I was 11. I think that the passion keeps you persistent in getting through the roadblocks that will come up, unless you're insanely brilliant, like the guys at Google. If you're going into entrepreneurship just to make money, it's going to be tough.

The whole thing has been a dream come true for me. When we started iRobot, if we'd sold a thousand robots, we would've thought ourselves very successful, because nobody had sold that number of mobile robots before. (I'm not talking about the industrial automation equipment, because people had been doing that for decades.)

Is the hobbyist, the enthusiast in you, a different person from the entrepreneur, or are they tied together?
It's very much the same. It's the passion for the technology. I can honestly say that if I wasn't doing this at companies, I'd be doing it in my garage. I happen to be around at a time when it's possible to be successful in business doing it, but if I was a decade earlier, I might have a real job and be doing [the robotics] in my garage.

Many technology entrepreneurs see the state and the private sector as being at odds. Do you think the state has a role to play in entrepreneurial and technological innovation?
I think it does, but not in funding it, because that's what venture capitalists do for a living. It's a role of enabling. I'm a believer in clusters of activity, and we have a cluster of robot activity in the Boston area, anchored by MIT and iRobot. Now there're hundreds of robotics start-ups, which is really exciting. To enable something like a robot community to get together—I think that's where the government can have some role. I'm serving as an ambassador for global entrepreneurship for the president, and that can be used in diplomatic outreach, too.

You've worked in academia, on government contracts, and in the private sector. Are there different mindsets that relate to innovation and entrepreneurship in each of those areas?
They have different roles to play in the innovation ecosphere. If you're at a university, you should absolutely be working on stuff that's 20 years out. If you're at a start-up and you're working on stuff that's 20 years out, that's not going to make your investors very happy. And the government: it's there to enable and to put a level playing field in place—rule of law, one set of rules for all people, policies that make venture capital possible. Government also has a role to play in areas affecting national security. Google might be curing cancer, but I don't think they're going to suddenly start putting up money to make sure our defenses are strong.

Math and science, technology, entrepreneurialism, defense contracting—these are often very male-dominated

environments. Are there special issues that women in these areas face?
Like everything else in life, it's a double-edged sword. On the one hand, there are statistics that show women raise less than five percent of the venture capital in the country, so things like that can be daunting. On the other hand, if you're in a room where you stand out, people remember you. You have to take the good about it and ignore the other stuff, because the world will catch up.

Are some countries better than other countries at sponsoring entrepreneurship? Is it an American specialty?
I think the U.S. has led the world in entrepreneurship. I'm a naturalized American citizen, so I like to say I'm American by choice, not by accident. I'm so glad my parents brought me over here when I was a child, because it really is a country that tells you anything's possible, that you can go out and do it. Starting a company right out of grad school and turning it into the premier robotics company has been literally a dream come true to me. But I think other countries are seeing how it's done, and that's a good thing for the world, because entrepreneurs create jobs, create industries. Competition can stimulate further development and move the world forward faster.

Is robotics becoming increasingly globalized?
Robotics is increasingly globalized, but some of that's not for good reasons. In the space that I'm working in now, in drones, there've been excessive regulations in place [in the United States], and that's helped drive away an industry that we moved on first, through U.S. military investments. [Misguided Federal Aviation Administration regulations have] pushed [the drone industry] over to Europe, Canada, and other places. So there can be a downside to government, too. [It's important to] make sure that, even while keeping people safe, regulations help American industry rather than hurt it.

Why drones?
I just see so much potential in flying robots, because they avoid so many of the issues you have on the ground, and I think we're going to go further faster with them. If you look around, wherever you are, you have free space [in the air]. By using drones, we get to cheat a little—not have to do as much obstacle avoidance, detection, categorization, and things like that, because there's less stuff around [than on the ground]. And the same is true outdoors: you don't have roads, pedestrians, cyclists; you don't have trees or rivers; there's this corridor above the treetops that is just waiting to be made use of by drones.

Old science fiction used to be filled with flying cars, jetpacks, and things like that. Will those eventually take advantage of the space you're talking about, or will it be just drones?
I believe that the technologies will come. We already have a lot of technologies in ground robots to sense and avoid things. I want to bring some of those technologies to the flying robot space. I think we can disambiguate the airspace; I see no reason why drones can't share the airspace with man.

How will people be safe in a world in which drone technology has proliferated

and drones become incredibly easy to purchase and operate?
A terrorist could buy a drone today and start planning an attack with it, and I think the only way we're actually going to catch that is with human intelligence. Terrorists aren't going to get drones from a company building them for commercial reasons; they're going to go to the hobby store and buy the ones that are already freely available, if they want to pack them with explosives. I think it's a challenge. But you can do the same with a car, and you don't say, "Well, we shouldn't sell cars because you can use them in a suicide attack." All we have to do is figure out who's going to be doing it and try to stop it.

You like the idea of a world full of robots, and a lot of people would agree if they helped them do things. But does that world full of robots have as many jobs for ordinary humans?
Robots have been in place in factories for decades now, and jobs have changed, but there're still people in factories. Maybe there are fewer, but we're able to produce more. If robots happen to make things more efficient, you want to be the place that has them. You can't stop technology; the world's going to continue to move forward. I would love to see [technological productivity] change the social contract and how people think of a full workweek—as four days of work or, later on, even three days—because there could be more quality time that people spend with their families.

Did the Roomba's making people comfortable with the idea of robots in their homes have a cultural significance beyond the economics?
I believe it did. When we first asked people if they wanted a vacuuming robot, they imagined the Terminator standing behind a vacuum and pushing it around. We asked mostly women, and they tend to be very practical: "Where would I put that? It doesn't fit in my closet." When we showed them the Roomba, it was like, "Oh yeah, I can imagine having that in my home." It goes to the charging station, it's very small, and it just does the job. We've gotten a lot of positive feedback.

Are we going to see robots in the future that are humanoid, androids like the ones in science fiction?
There are seven billion people in the world, and almost all of them are very good at being people. We're not trying to duplicate people. We're trying to help them; make them more efficient, better at their jobs; empower them to do more with robotic technology.

How is robotics related to artificial intelligence?
You need artificial intelligence on robots, but you can have artificial intelligence purely in a disembodied state, on, say, a computer system. My belief is that the artificial intelligence in robots is going to go down a different path, one that becomes more animal-like or human-like, whereas the stuff on a computer is not competing with human intelligence; it's an adjunct to it. I think people get very confused by the language that's used by people working on artificial intelligence. They say, "It's like a brain." But it's not. It's totally a machine; it's an algorithm.

When people say things like, "AI's the worst existential threat that exists for humans," I don't see it. There's nothing that I've seen right at this moment that I'm worried about being a threat to humans.

Do you worry about Skynet and Terminators?
No, because I haven't seen any technology that makes me worry about it. If I did, sure, I'd be worried. The problem with worrying about everything is that it takes mind share away from things that we really should be worried about, like global warming, genocide, fundamentalism, biotech weapons, and so forth. These are real concerns.

In the early 2000s, Bill Joy [then chief scientist at Sun Microsystems] wrote articles about how biotech, nanotech, and robotics were going to kill the world. We'd get calls from *The Wall Street Journal*, and they'd say, "What kind of evil robots are you making there?" And we'd be like, "No, it's a vacuum. I swear, it's a vacuum."

You like robots and want to see a world full of them. Are there some people who have the opposite feeling, who naturally fear or loathe them?
Yes, but those same people potentially had a natural fear and loathing of computer systems, and some might still. But once you have one on your desktop, once you have a Roomba in your home, you change your mind. You see what it's going to do for you. Once robots are delivering your packages in 30 minutes rather than you having to wait a whole day, I think people will start to see them as useful devices rather than world-ending devices.

Some people talk about the end of innovation or "the great stagnation." Do you think the truly life-changing innovations have already occurred?
Whoever said that does not study their history. Innovative people will [always] be able to take things from different fields and put them together and come up with something completely new.

Africa Calling

A Conversation With Mo Ibrahim

Born in northern Sudan in 1946, Mo Ibrahim received a scholarship to Alexandria University, in Egypt, and graduated with a degree in electrical engineering in 1968. After several years working for Sudan's state telecommunications company in Khartoum, he left for the United Kingdom to study mobile communications, first at the University of Bradford, for his master's degree, and then at the University of Birmingham, for his Ph.D. He spent several years at British Telecom before quitting in frustration, and in 1989, he founded his first company, Mobile Systems International, or MSI, which provided software and advice for cellular networks. His second company, Celtel, created its own cellular networks across sub-Saharan Africa and eventually served 24 million customers in 14 countries. After selling Celtel in 2005, he established the Mo Ibrahim Foundation, which publishes an index of African governance and awards cash prizes to African leaders who leave office peacefully. Ibrahim spoke to *Foreign Affairs* deputy managing editor Stuart Reid in November.

What are the most important qualities for an entrepreneur to have?
The initiative to try to do something that other people shied away from. That self-belief, that can-do spirit, that nothing is impossible. Then there's focus: if you start the mission, you need to eat, drink, and sleep it.

Are entrepreneurs successful because of their own personal qualities or the context they find themselves in?
They complement each other. I left Sudan when I was 25 or 26 years old. If I had stayed, I would never have ended up being an entrepreneur. You can have the qualities, but if you don't have the environment, you just wither away. It's like a fish: take it out of water, it will not survive.

Why would things not have worked out had you stayed in Sudan?
It was a stifling society with government controlling all aspects of life. You could not get funding for any sort of project. There was no infrastructure to support you. And there were a lot of social pressures to just take a government job and have some babies, and that's it.

Were there times in your career when you thought you would fail?
Many times. There were times when we really ran out of money. Our problem was always funding, because all our operations were growing at a breakneck speed. We needed to double our investments almost every year, because that's the way that growth would happen. The financial markets were not very friendly to Africa or to telecom. Remember, 2000 was the year of the dot-com bust. The telecom industry lost about $2 trillion in market capital at that time. We had the double whammy: being a telephone company and being African.

This interview has been edited and condensed.

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Ibrahim in London, October 2006

Are there Africa-specific inhibitions to entrepreneurs?

The picture varies from country to country, but in general, there is a lack of infrastructure—good roads or power, for example. This can be an impediment. We had so many radio sites, these stations you have to have everywhere for mobile. The vast majority of them didn't have power, so we had to put in generators. And if you put in generators, you need backups for these generators. You also need batteries. And you need somebody to go every morning to each one of those sites to supply fuel and put in the batteries. These are not very accessible locations. Imagine the huge effort you have to put in just to keep your services on. So lack of infrastructure is a problem. It can be overcome; we overcame it. But what is interesting is that it generated a lot of other businesses around us in each country, where we dealt with supplying the generators or maintaining them.

Did it help that you didn't need much infrastructure?

What mattered was the extreme need for this service. Africa is a huge continent. When we started, there were about three million fixed lines serving over 950 million people. Congo had 3,000 fixed lines but 55 million people. Postal service doesn't work, unless you're happy to wait for a month to get the message. Roads are not practical in Africa. If you want to get the message from A to B, it's a real pain in the neck. So a phone call is worth a lot, because of the lack of alternatives. But it's terribly expensive to lay fiber or copper over these expanses and connect it to every home. If you put up a mobile station, immediately you can service every single house within 100 square miles. In a few months, you can cover the capital city—every home and every single road in that city. That's why we were able to leapfrog: because the technology met the need.

What can Africa and the developing world more broadly do to create a climate that's friendly to economic growth?

Rule of law is the most important element in any civil society. To build a successful country, we need to have rule of law. And rule of law is not just about writing a beautiful constitution or set of laws. It is also about the independence of the judiciary. It's about institutions. It's about respect for rights, human rights, social, economic rights, etc.

Were there times in your own career when you had difficulty operating in a certain country without a strong rule of law?

Absolutely. We operated during the civil wars in Sierra Leone and Congo. What helped us was that all competing parties perceived a benefit: they really needed mobile communications. So they left us alone. Our infrastructure was never damaged or looted.

In other countries, where telecom was a monopoly of the government when we came in, problems originated from a lack of appreciation for the role of the private sector. You end up with a regulator who comes from the incumbent, and they perceive us as a competitor. But it's interesting: we had three situations in three countries where we had to take the government to local courts for infringement of our contract. In all three cases, we won. If anything, that shows that there can be reasonable rule of law in a country even when administrations sometimes misbehave.

What did you do when government officials asked your employees for bribes?
We had a discussion with the board when we started. We said, "It's not enough for the board sitting in its nice, cozy headquarters in Europe to make statements about anticorruption. What is needed is to offer support to our local people." Because who comes under pressure for bribes? It's not the guys at the top of the company but the people operating in the country. And each operation is actually a local company headed by a CEO. The scheme we came up with was very simple. We said that the CEO and the local management did not have the power to sign any check in excess of $30,000. It was intentionally quite low to make sure that when a minister or a senior official came to put pressure on the CEO, he could say, "You're asking for two million? I need to write to the board to ask for permission." No president or prime minister would dare to submit a request to ask for a bribe.

Your background is in electrical engineering. How did having that scientific expertise affect the way you ran your companies?
My first company, MSI, was a consulting company. I didn't even know how to read a balance sheet. I was an engineer. I just wanted my freedom. British Telecom was a huge bureaucracy and failed to see the future of communications, and I just got fed up working there. So I said, "OK, what I know is how to grow a network, and I am going to do that."

Then I had too much work. I couldn't handle it by myself, so I brought on some more engineers. I didn't have a marketing department, I didn't have an HR department, and I didn't have a finance department. We were just a bunch of engineers selling our services. In a short time, I had a major operation. I knew I didn't have the business background, and I did seek help. But in the first years, I managed the company's cash flow, which was easy for me. I found this was just common sense. And I made every engineer in my company a shareholder. That was something I felt strongly about—that we needed to build a committed team. That proved to be a great thing, because we had a high retention rate and complete devotion from our work force.

I'm on the board of London Business School, and sometimes they ask me to give a lecture here or there about how to run businesses—when I didn't have any business training other than common sense and learning on the job. But it seems to me, that's the essential thing. We do not need to trouble our heads with too much Harvard Business School or London Business School teaching.

Do founders make good executives?
It depends. I'm not really the dictatorial type. I don't have a big ego. If you don't have a big ego as a founder, you can be a wonderful executive because you are willing to listen. Once you listen to everybody, and then decisions are made, then all of us need to row in that direction. That's how companies move forward. Provided you don't let your ego stand between you and common sense or suggestions, then founders can be good executives.

How important is entrepreneurship, not just for firms and industries but for the economy as a whole?
It is vital. Where will jobs come from? The government won't produce jobs. Governments in Africa are bloated and need to shed jobs, and most of the jobs are created by small businesses. Everywhere, even now in Germany and Europe and all developed economies, it is small companies that are creating the jobs. Look at some of the greatest champions of business in America: your tech companies. All those firms were start-up companies 20 years ago or so. These would provide innovative solutions, jobs, wealth, etc.

What, if anything, can governments do to increase the scale and quality of entrepreneurship in their countries?
To be honest, I think government cannot do much other than trying to help develop the atmosphere. Africa is a little bit different from the United States, because you're at a different stage of development. Entrepreneurship is already deeply rooted in your society. You have a massive community of venture capital angels; this thing is lacking in Africa. We don't have strong private equity or venture capital funds, which look for investors and mentor and finance and help pick winners. The government cannot play that role, frankly, because the government is not qualified to do that. Otherwise, you're going to end up with massive nepotism and corruption, unfortunately.

The education system is also important. We have a problem in Africa with our education system. It is a relic from the past. The education system was meant to create clerks to help the administrative role of the colonial power. So the emphasis was on neat handwriting and how to write good reports and things like that, and if you move further, then you study Shakespeare and Molière. But we don't have enough engineers and scientists. Two percent of African university graduates study agriculture, when 70 percent of our people are living off the land. Obviously, we have a problem. How many engineers and scientists do we produce? Very few. Something like 30 percent of our graduates just study literature, which is interesting, but how do you build power stations, build roads, build dams, build the continent unless you have the skills?

Some of the funding for what became Celtel came from governments in the form of development funds. Can the government play a role as an early stage investor?
No, because the state has no money and so many demands. Look, if you're running a country like Burkina Faso or Mali, you have demands for health, education, roads, power. How much capacity do you have in order to support entrepreneurs there? Financially, it's difficult.

Don't forget that those guys gave up the licenses to use telecom because they couldn't do it themselves. The telecom industry had a terrible time because they were government-run departments and the largest customers were [other] government departments. The government departments never paid their bills, because if you're the minister of education, you need to build schools, you need to publish books, and you need to pay teachers. You know that the telecoms cannot cut off your service. That meant that the telecom department was starved for cash, so it could not invest in new technology, like mobile communication. Remember, at the beginning, everybody thought mobile communication was something for the elite, not for the people. So it was very convenient for the government to say "OK, I'm going to focus on basic services and let that crazy investor have a go at this. And if he succeeds, I'm going to charge him a lot of taxes and licenses and make some money out of him."

You've operated in many different countries. Is it easier being an entrepreneur in some of them as opposed to others?
Yes, of course. For me, it has always been about the rule of law. When things are clear, and you have a process of bidding and licensing that is open and clean, it's important. When you're not wrapped up in red tape, that's really important. In some countries, it was very straightforward, and the governments understood exactly what we were trying to do and gave us support. And in some countries, we were met with suspicion—that any businessman coming here is essentially a thief and has to be watched very carefully, and if we can squeeze him, why not? It takes time to build an understanding that you're not really a thief and that what you are doing is an essential service. Then they end up falling in love with you, which is terrific.

Ethnic minorities can sometimes be the most prominent entrepreneurs in certain parts of Africa: South Asians in East Africa and Lebanese and Syrians in West Africa. Have these groups been constrained by governments that are suspicious of outsiders?
Not really. Most of those minorities are involved in trade, manufacturing, transport, services, etc. They are entrepreneurial, and they helped a lot to kick off economies. I think immigrants are a wonderful resource for any country, because by their nature, they are entrepreneurial. I mean, you leave your village and jump on a ship and go somewhere else to start a new life away from your family and friends—it shows character. Immigrants everywhere have been a wonderful bonus for the host countries. Sometimes it amazes me how anti-immigration feelings arise in Europe or the United States, when immigration has been wonderful for business.

The only difference in Africa is that many of those immigrants did not necessarily integrate themselves completely in the country. They kept their passports. Very few of them acquired the local nationality. You'll find third-generation or fourth-generation families still with the Lebanese or the Indian passport. That's what produced the issue of whether you are part of the country. It's understandable; some of those people are not sure about the political situation going forward. What Idi Amin did with the Indians [expelling them from Uganda in 1972] was not helpful. But it's a mutual problem.

Is it fair to say that Africa has a democratic deficit?
I don't think so. Actually, participation has been one of the most improved parameters in our index. A lot of Africans actually live in a much better society now. Still, we have quite a handful of countries where some presidents just do not go away.

Power is very seductive. If you control a country for some time, then there comes a point where you feel indispensable. You become part of the landscape. Some leaders, of course, have also committed crimes, and they have blood on their hands. Or they have secret accounts with stolen money. And so if they leave, people will come after them. So they just don't leave. Like in Sudan: if you leave, you end up at the International Criminal Court. Staying in power is a form of insurance policy against the long arm of the law.

How can leaders be convinced to leave office? Both Rwanda and Congo, for example, have presidents who have hinted that they might change the constitution to stay in office.
They are two different cases. I know there's some criticism against President [Paul] Kagame, but one has to accept that he really managed to steer his country and was successful in the development of Rwanda. People admire that. That should be his legacy, and I hope he makes the right decision. Congo is a bit different, because I don't think the president there has succeeded in building his nation. Congo is dysfunctional. It's a very fragile state. I think it's very important for the sake of his own people that the president there just leaves peacefully. We'll hope to find better leadership. Somehow, that country needs to be put together again.

How much is the colonial era a factor at this point?
The colonial factor complicated matters, because it created a number of bogus borders. Many of the borders of the current African states don't necessarily follow demographic lines or natural land features; they're just compromises between various colonial powers in the race for colonization. These sorts of deals sometimes happened between two drunk pinheads in a tent in the evening, sipping gin and getting a map out and drawing lines across a map. So when independent Africa was born in the '50s, it was born with that big problem. One of the worst things was the lack of the natural development of a democratic movement. When people left, they left in a hurry and did not pay much attention to what they left behind.

Is creative destruction always a net plus for the economy, society, and employment?
It ought to be that way. I know the current debate now is about whether new technology is destroying jobs or not, and maybe the jury is still out on that. But if you look at all the major disruptions in the past, yes, there was upheaval at the beginning, but then, somehow, we managed to create more jobs once we adapted to the new disruptive technology. But I think we're now going into some uncharted waters, with intelligent machines coming. Are we ending up with a society where a few of us who are well equipped to work with and develop these new intelligent machines will end up rich while the majority of people will be out of work? I really don't know. But I am anxious.

Much Ventured, Much Gained

A Conversation With Michael Moritz

Born in 1954 in Wales to Jewish refugees from Nazi Germany, Michael Moritz attended Howardian High School in Cardiff and studied history at Christ Church, Oxford. After college, he moved to the United States, getting an MBA from Wharton and then working as a reporter for *Time*. In 1984, he published an early history of Apple Computer, and in 1986, he joined the Silicon Valley venture capital firm Sequoia Capital. Over the past three decades, he has been an early stage investor in an extraordinary string of companies, including Cisco, Google, Kayak, LinkedIn, PayPal, WhatsApp, Yahoo, Zappos, and many others. He has pledged to give away the majority of his fortune and has already donated hundreds of millions of dollars to various educational institutions. *Foreign Affairs* editor Gideon Rose spoke to him about entrepreneurship in his office in late October.

You've been as successful as any venture capitalist in history. What are the qualities you look for in a start-up?
Remarkable people on a mission that is not widely recognized by others.

This interview has been edited and condensed.

Has that changed over time, or are you looking for the same things now that you looked for 25 years ago?
It's exactly the same as 25 years ago, with the one big exception that there are far more opportunities today than there were a quarter of a century ago, because of the digitization of everything.

Most start-ups and most entrepreneurs fail, and only a tiny handful become giant successes. Are there actual, predictable differences that separate the successes from the failures, or is it just a question of luck and timing?
Companies have to get the timing right, because everybody knows what happens if a company gets started years before a market develops or after too many others have sought to exploit a similar opportunity. So timing is clearly a very important part.

When we make extremely early stage investments—really, really early, when it's perhaps one or two people with an embryonic idea, and we invest a small amount of money, maybe $250,000 or $500,000—the mortality rate of those sorts of endeavors is very different from where we commit more serious amounts of money, say, from $2 million to $6 million. As the size of the investment increases, the mortality rate decreases, because there's more certainty associated with it.

Over the years, we've had our share of bloody noses and made some terrible mistakes, either companies that we invested in or companies that we should have invested in but chose not to. But we have a reasonably decent record of not losing gobs of money investing in companies that are past a very embryonic stage.

REX / HUW JOHN

Moritz in Wales, October 2012

How about the great successes? Do you know from the very beginning, when you first hear the pitch, that a Google is going to be a Google?
No. It's the PR people and the marketers and the revisionists who proclaim that everything was obvious from day one. On day one, nothing is obvious, because all you're doing is trying to concentrate on getting through the first six months and surviving for the first year.

Sequoia invested very early on in Apple, but I won't talk about that, because Apple had two different incarnations. It was a public company during its incredible rebirth, and that portion was well after the venture stage.

But I can talk about Cisco, or Yahoo, or Google, or PayPal, or Flextronics, or YouTube—any number of those sorts of companies. And if we or the founders are honest about what we thought was possible on day one . . . I think collectively we have a wonderful ability to underestimate the potential of a company that becomes great. And we do that extremely consistently.

We invested in Cisco towards the end of 1986, and never in a million years, when we met with the founding team—which was six or seven or eight people at the time—did we ever dream that that company a decade later would be worth $100 billion.

When we invested in Google, the predecessors of the Twitterati were very busy saying that it was far too late to invest in a search company, there were any number of search companies around, that market was already spoken for. There were many naysayers. And certainly, the first 12 months of Google were not a cakewalk, because the company didn't start off in the business that it eventually tapped. At first, it went in a different direction, which was selling its technology—selling licenses for its search engines to larger Internet properties and to corporations. And that was an extremely difficult market. Cash was going out of the window at a feral rate during the first six, seven months. And then, very ingeniously, Larry [Page] and Sergey [Brin] and others fastened on a model that they had seen this other company, Overture, develop, which was ranked advertisements. They saw how it could be improved and enhanced and made it their own, and that transformed the business.

I think the only thing that we really understood with great clarity in the beginning—whatever it was, 1999—was that the need for search on the Internet was only going to go in one direction. We'd been investors in Yahoo. We knew about the proliferation of more and more sources of content that would need search. We understood that. But if you'd said that Google would at some point be more valuable than Microsoft, or that it would become as recognized around the world as Coca-Cola or Nike, we would have thought that was dreaming the impossible dream.

Did you imagine WhatsApp would be as big as it became?
I think it was easier to see that for those who traveled overseas. If you looked at WhatsApp in America, it was very difficult to imagine how popular this was. But I remember going to India fairly soon after we'd made the WhatsApp investment, and I noticed how prevalent it was there. We also under-

stood when we invested that it was the best of breed for this new form of SMS, and that these communications networks, if they struck a chord, could grow at extraordinary rates. We did not anticipate the scale of the sale to Facebook. Nobody did. But we'd watched e-mail and the messaging apps and Skype and all these other communication applications over, you know, 25 years, and we'd seen what was going on in China, so we had a reasonable sense of what would happen.

What are the most important qualities for an entrepreneur to have?
Clarity of thought. The ability to communicate clearly. A great sense of mission. A massive willingness to persevere. A willingness to make painful decisions. Extraordinary energy. And a belief that he or she has embarked on their life's work. Those are the hallmarks of the truly wonderful entrepreneurs behind the handful of fantastic companies.

There are lots of other virtues of entrepreneurs for companies that are nice companies, that everybody would be proud to be associated with, but that aren't up in the stratosphere, where only a few companies orbit.

Economists such as Schumpeter argue that entrepreneurship is crucial not just for individuals and firms but for the broader economy as a whole—that it's the engine of dynamism and innovation. Do you think that's true?
Oh, clearly. And [its effect is] not just on the economy. It's on the way people live, work, entertain themselves, travel. There isn't an aspect of human life that technological entrepreneurialism doesn't touch.

Is technological entrepreneurialism different in some significant way from entrepreneurialism in other sectors of the economy?
I think it's very hard today to detach any form of entrepreneurial activity from technology, because whatever business you start is launched on some form of technology. You may just want to start a small bakery, but you're buying really good equipment, you're using software to run your business, you've probably got a website.

Today, we pigeonhole technology and associate it with the sorts of things that come out of Silicon Valley. But we forget about looms and steel furnaces and automobile assembly lines and the telegraph and the refrigerator and the washing machine and the airplane and all these other things. You could make the argument that nothing happened in the universe until around 1725, 1750, and then all hell broke loose with the arrival of technology. And the speed has only increased since then.

What is the connection, if any, between entrepreneurship and innovation?
Rupert Murdoch puts it well. If you ask him about his company, which has been extremely entrepreneurial, he says his company has its roots in intuition, innovation, and opportunism. I think that's as good and succinct a definition of entrepreneurial activity as you're going to find anywhere. That's the hallmark of most of these companies. Everybody knows the stories about Steve Jobs visiting Xerox and seeing something and thinking that he was going to be able to do it better than Xerox, or Bill Gates fastening on an opportunity to sell IBM an operating

system he didn't even own, or the Google guys jumping on the possibilities that had been illustrated by Overture.

What about the role of the state in innovation? That's often underplayed in some of the Silicon Valley narratives.
What people always forget in the ritual whining and moaning of the technology industry about the intrusion of the state and regulation and the endless red tape associated with doing things with the government is the effect of the state on the university system, particularly how much of the imaginative spark kindled in universities actually rests on programs that (perhaps unbeknownst to the participants) are financed in whole or in part by government. I think that's where government has played a huge role in the creation of Silicon Valley—because of Stanford, because of Berkeley, because of Caltech, because of some of these other universities.

So the state has a major role to play, not so much in directly driving innovation and technology but in providing for education and basic research?
Absolutely. I think the state's role in the evolution of technology is best aimed at fueling adventures of the mind into the impossible reaches. That is very long range, and it's the sort of thing that almost no companies have the wherewithal to contemplate.

You've increasingly been investing on a truly global scale—in China, in India, in Israel, even in Europe.
The world has changed dramatically in 30 years. The most imaginative entrepreneurial people in the world used to have to come to Silicon Valley. Now the U.S. share of the creation of fresh, new technology value is declining. That's part of the reason that about 15 years ago, we decided here at Sequoia we had to follow technology where it was being developed by entrepreneurs, in different places around the world.

Is it easier to be an entrepreneur in some countries than others, and if so, why?
I sometimes tell people who ask us how we can possibly do business in China, "Have you ever tried doing business in the state of California?" Look, every region has its challenges. And if you're starting a company with big dreams, that is the hardest endeavor in business, irrespective of whether you're in Beijing, Bangalore, Mountain View, Edinburgh, or Tel Aviv. It's just an enormously difficult undertaking.

Clearly, proximity to a large market is a big help, which is why so many U.S. companies have flourished, because of the size and prosperity of the United States. And it's why so many of the Chinese companies have flourished in the last decade, because of the growth of the Chinese economy. So companies and entrepreneurs playing in their home markets clearly have a massive advantage over others who have got a great idea but may be hundreds, if not thousands, of miles away from the people who really want to buy whatever it is that they've designed.

So the Internet hasn't eliminated geography as a factor?
It's clearly helped a tremendous amount. A lot of things are way easier. But it's [still] harder to start a [global] company in Reykjavik than it is right here or in Beijing.

What can governments do to increase the scale and quality of entrepreneurship in their countries?

First, help to underwrite the cost of fundamental basic research that occurs within universities. Second, have a clear set of priorities regarding big areas that are worth serious investigation. And third, stick to those agendas, rather than flipping like a horsetail in the wind. All the other stuff—the regulatory environment, tax incentives, rule of law—all of those are subsidiary to those three things.

Is creative destruction always a net plus for the economy and society?

It's very easy from our sanctimonious perch here [in Silicon Valley] to say yes. I think it's much more difficult for the toll taker on the Golden Gate Bridge who's been replaced by a laser scanner, the fellow on the assembly line who's been displaced by a robot, the paralegals who have been replaced by software, the person that used to do typesetting on newspapers and learned the craft for six or seven years. It is extremely painful and distressing for people who are unfortunate enough not to have the education or the skills or be of an age where they can retool themselves for a new endeavor. I actually had a meeting just before this that was about a factory automation company. Boy, I wouldn't want a future as a forklift truck operator, because they will be extinct.

So are you becoming a Luddite in your old age?

No, not at all. But it places a huge onus on government to provide a fantastic educational system so that people have the skills and wherewithal to be able to make a living for themselves in a world where manual endeavor is no longer valued and where increasingly [even] forms of intellectual endeavor that have previously been considered impregnable are now being taken over by machines. It's cold and brutal.

Many of your great successes have involved huge gains with companies that have only a handful of owners and employees. Do you worry about that being a broader trend and contributing to rising inequality in the economy and society more generally?
Like everybody else, I read the Piketty book. And I think the world has always been a very unfair place. I think the middle of the twentieth century is the aberration over the course of history, where there was compression between the wealth of the top one percent and everybody else. If you look further back, that was not the case. And obviously, it isn't a good thing for vast amounts of people to feel disenfranchised. That has never led to a happy result.

So do you worry about the [unequal] world we're moving into?
I don't. Why don't I? Partly because there's nothing I can do about it. But it's very easy for people like us here not to understand how extraordinarily fortunate we've been. It's just preposterous how lucky we've been to be in this place, at this time, associated with all the different things that have happened here.

You often favor very long-term holdings, where possible. Are the qualities that make a good founder the same as those that make a good executive more generally?
The issue with companies that lose their way is that they're run by people who do not act like founders. I've thought about that a fair amount in regards to, say, the automobile industry, when the original engineers who started all these companies—Ford and Chrysler and the others—were [replaced] by the so-called professional manager, who, on the whole, didn't have an engineering background, wasn't that interested in technology, like the founder of the company, and forgot to take care of the future. It would be wonderful for some of these big companies if they were run by people with real entrepreneurial instincts. If you look at the massive change in composition of the Dow Jones index over 30 or 40 years, and you wonder where all those big companies went, they went away because the people at the top of them didn't have an entrepreneurial bone in their body.

So it's not that founders don't make good managers; it's that managers actually don't act enough like good founders?
The last thing that many companies need are managers. Most companies would be way better off with more entrepreneurs than managers. It's fine to have things that aren't perfect and have some rough edges and have a reasonably chaotic environment that's a bit unpredictable but is vibrant, is developing new products, and is moving very quickly. That's far preferable to having a well-managed, predictable, slow-moving company.

You've been in the Valley through several decades and investment cycles. What's been constant, and what's changed over time?
Today, it's easier than ever to start a

company and harder than ever to build a company. It's way easier than it was in the '70s and the '80s, because of all the things that we know, the way the price of computing has declined, the availability of open-source software, the ability to have creative and major contributors working for your company even if they are located in remote places scattered around the world. All of that stuff is so much easier to orchestrate today—distributing products, particularly software and services, over the Internet rather than having to do it with atoms and with people and with boxes.

But I think it's much harder today—certainly in Silicon Valley—to build a company that endures, because of the dearth of engineers and the enormous competition for their services. So retaining these people is extremely difficult. I'm not saying it necessarily was the healthiest of things, but 30 years ago, there were not as many mercenaries around. [Today,] the majority of people who work between San Jose and San Francisco don't work for a company. They work for the Valley. The company where they are roosting is a temporary nest, and they will change their nest every three or four years, depending on their vesting schedule.

So hiqh-quality engineers are the critical constraint? And if so, how do you get them? Grow them? Import them?
You do all of those things. You modify the immigration laws. That probably would be the biggest single thing that would help ensure the future health and prosperity of American industry. I realize all the political implications associated with it. But America was built on immigrants. The single easiest thing to do to ensure the future here is to have a much more generous immigration approach to very talented individuals and ensure that the Ph.D.s from overseas educated at the very best universities in America are not summarily deported as soon as they receive their magical piece of paper.

There's been talk in some places of the death of innovation or "the great stagnation." Do you see innovation and economic dynamism moving forward, or are their best days behind us?
When you're thinking about the evolution of technology, I don't know why today is any different from the last 200 or 300 years. I don't understand why tomorrow should not be brighter than it is today. But I do wonder what America's relative place will be, because so much of the dynamism in the world of technology is now taking place outside of the United States, and people here are just not aware of the scale of the achievement or the extent of the ambition of the entrepreneurs there.

You've said that a key point in your career was in your 20s, when you were told by [a potential employer in England] that if he were a young man, he would go to America. If you were talking to a young person today, would you tell them to go somewhere else?
This is so much easier to say than to do. But if I was a Westerner, age 22, and felt that I either could make my way with my Mandarin or had sufficient confidence that I was going to master it, I'd be in China.

The Nordic Model

A Conversation With Niklas Zennstrom

A native of Jarfalla, Sweden, Niklas Zennstrom studied business, engineering physics, and computer science at Uppsala University and the University of Michigan. In the mid-1990s, while heading up the Danish division of the Swedish telecommunications firm Tele2, he hired Janus Friis to run customer support, and soon the two of them decided to collaborate as entrepreneurs. They founded the peer-to-peer file-sharing company Kazaa in 2000 and the Internet telephone company Skype in 2003. In 2006, Zennstrom started Atomico, a firm that invests in innovative technology companies around the world. And in 2007, with his wife, Catherine, he started Zennstrom Philanthropies, which focuses on human rights and the environment. He Skyped with *Foreign Affairs* editor Gideon Rose in early November.

What are the most important qualities for a successful entrepreneur to have?
Courage—because as an entrepreneur, you're trying to do something that no one has done before, and a lot of people will try to discourage you. You need to have a lot of courage to take the first step and stay your path through all the challenges. That's very, very important. Another important thing is curiosity—being curious about how things work, trying to see around corners, trying to understand what the world could be like in the future. And the ability to question the status quo, to ask why things cannot be done in a different way.

Even many people who have those qualities don't succeed. Are there some predictable things that separate the winners from the losers, apart from luck and timing?
[Just like when] you play basketball or football, you need a bit of luck to win sometimes. But timing is hugely important. Entrepreneurs who come up with their idea at the right time are much more likely to succeed than those who come up with the idea a little bit early or a little bit too late. But refusing to give up—that's very important. And also having vision and clarity and focus about what you want to achieve. That's something that differentiates the ones who become successful from the ones who fail.

You've been involved with a number of companies, some of which ultimately became giant hits. Did you know those were real winners back when they were just embryonic companies, or were you surprised by their success?
When we started Kazaa in 2000, we'd seen Napster, and we thought they had a great hybrid peer-to-peer model for music. We got inspired by what they were doing and saw they were running into some problems with the music industry. We thought, this is interesting—we can do a full peer-to-peer technology which is much more efficient, but we're not going to do it in music. We're going to do it for any

This interview has been edited and condensed.

BLOOMBERG / GETTY IMAGES / SIMON DAWSON

Zennstrom in Dublin, October 2010

kind of media product, all your video, images, or software.

We thought it was great timing. It turned out that it was not good timing, because when Napster got shut down, people went from using Napster to using Kazaa for music. So while we became hugely successful and popular with users, we failed to develop a [viable] business model because the music and the movie industries were determined to shut down all file-sharing services.

A few years later, Apple came up with iTunes, and then YouTube came up. It, too, was on the verge of being shut down by the media industry, but that's when they seem to have realized that the Internet was here to stay and they needed to try to find a model for working with these players. So in that case, YouTube had fantastic timing and Kazaa had poor timing. But I never gave up, because I realized that even if using it for transmitting files didn't work, we could still use this very powerful technology in a different way.

So we kept going, and eventually came up with the idea that it could be used to disrupt the telephone sector. When we started to look at opportunities with Skype, we thought, you know what? Maybe now the timing is perfect, because of broadband. In 2002, people started to migrate from dial-up connections to broadband connections, and you started to have WiFi. You started to have what today are called smartphones (at the time, they were called PDAs). And you started to have other technologies that could enable powerful Voice over IP service. That's why we felt that the timing was really good with Skype.

And then, as we launched, we benefited from still other technological trends. For example, except for Macs, laptops used to be shipped without microphones. But then all PCs and laptops started to be shipped with microphones. And the year we launched video coincided with all laptop manufacturers starting to install video cameras into their computers. So you can say we were lucky in that we benefited from other technologies that enabled our business. We were kind of just in front of the wave all the time, riding it, and that enabled us to get network effect and critical mass.

Is that luck? Is that skill? It's timing. We could not foresee everything, but we thought when we started that we had a lot of winds at our back that favored us.

Was Kazaa a precursor of the "sharing economy" that's getting so much attention these days, with Uber and Airbnb and so forth?

Yes, it was, but Napster was the innovator there. Napster had it first, a hybrid peer-to-peer model in which people shared their music libraries with each other. We took that to the next level. That was certainly part of the sharing economy. The problem with that model was that you were sharing something that maybe you didn't always have the right to share.

What is the relationship between entrepreneurship and innovation?

They're certainly interrelated. Almost all successful entrepreneurs within the technology field have some kind of innovation. In other fields, finance or real estate, they may not be so involved with innovation. But in technology, there is always some kind of innovation. Some times it's deeper than others. With

Internet businesses, the innovation has become more about the product and the business model [than the underlying technology].

Schumpeter felt that entrepreneurship was crucial not just for individuals and firms but for the economy as a whole—that entrepreneurs were these great men and women driving society and the economy forward. Do you agree with that?
Absolutely. I think it's a huge driver for the economy, because in sectors that become mature, you have mature companies who improve [only] on the margin. Maybe they're growing a little bit here and there, becoming a little bit more efficient, making iterations of the products that they're selling. But what entrepreneurs do is start with a clean sheet of paper or a clean whiteboard and say, "How do we do this in a different way? How do we solve this problem? We're not the incumbent; if we just start from now, if we don't have all this legacy infrastructure or technology, can we do it in a much more efficient way?" And they can innovate [and come up with] a business model or a product that costs a tenth of the way the incumbent did something or provides ten times the efficiency. The sharing economy, for example, is about innovation that increases the utilization of resources that are underutilized. It's great, and it's driving economic efficiency.

Is the disruption that your companies are trying to achieve always, on balance, a good thing for the economy and society?
On balance, disruptive innovation is very positive. In an isolated environment, something is being done in a traditional way. Then innovative entrepreneurs come out and say, "Hey, you can do this much more efficiently for a fraction of the cost and with a tenth of the number of employees." For customers, it's fantastic. But there are people who are losing jobs, which is not great for them and potentially a burden for society. Over the long term, however, if you don't have disruptive innovation, you will become a country or a market full of incumbents and will eventually be disrupted by somebody else, which would be very bad for you. So yes, on balance, disruptive innovation is good.

Many people think of technological innovation and entrepreneurship as an American, and particularly a Silicon Valley, specialty. You're an example of the global spread of tech entrepreneurship. Are you an exception, or are you the new rule?
This is something I'm really excited about. One of the reasons I started Atomico eight years ago was to prove that Skype was not just the one exception where a global tech company was created outside of Silicon Valley.

Silicon Valley was the first technology ecosystem created. It's been around for over 50 years. And it is the most prolific location for creating successful technology businesses. But we did some research and looked at the last ten years in the Internet and software sector to see where the billion-dollar companies were coming from. What we found was that 40 percent of those companies came from Silicon Valley and 60 percent came from outside. My prediction would be that over the next ten years, Silicon Valley will account for less than 40 percent.

[For a technology ecosystem to thrive,] you need to have people who are encouraging. You need to have role models. You need to have capital. And you need to have people who want to come and work for these entrepreneurs. That is starting to happen in more and more places. Obviously, China, with Beijing, is in second place. But Sweden is now third in the world in producing billion-dollar software and Internet companies over the last ten years.

There's no lack of talent in these other places, and technology education is very good all around. Ten or 15 years ago, if you wanted to be an Internet innovator or entrepreneur, you packed your bag and bought a one-way ticket to Silicon Valley and made it over there. Today, you don't need to do that. You can be equally successful in many other places around the world. This is an irreversible trend. I think you're going to see more and more great entrepreneurs and great technology companies being created in other places.

Is it easier being entrepreneurial in some countries as opposed to others, and can governments do things to increase the scale and quality of entrepreneurship in their countries?
One of the reasons Silicon Valley has been successful is by having a culture that's supportive of entrepreneurs. Some countries have more of a cultural challenge with entrepreneurs, whether that's in Europe or Japan—countries where being an entrepreneur is not encouraged and you were supposed to have a career and job security. But that is changing. We see it in the United Kingdom, in London. In Stockholm. In Berlin. China has a very entrepreneurial culture. And also in Tokyo you're starting to see more and more of it.

Governments have a role to play in encouraging entrepreneurs by shining a spotlight on them and helping create role models. But ultimately, the biggest change comes from building an ecosystem where a successful entrepreneur goes and invests in the next generation. People who worked for the first-generation entrepreneur start companies. Then engineering students go to work for a start-up instead of a large corporation or a bank, and you start seeing successes. Governments can facilitate this. In the United Kingdom, for example, the government has been very focused on making the country a great place for entrepreneurs, and that has been helpful in making London a terrific tech hub. I wouldn't say that the government has created it, but they've been helpful.

For example, one of the big challenges when you start a company is hiring the best people, with the right talent. And the U.K. government has made it easier to hire people from other countries. Another big challenge for entrepreneurs is getting financing before they've proven their business. (Once they've proven the business, it's no problem, because then a lot of investors come along.) So what governments can do is not invest themselves but make it easier for private investors to invest—by, for example, reducing capital gains taxes for investing in start-up companies. And a start-up company doesn't have a lot of money, so you pay employees with stock options; governments can make sure that those stock options are not too costly to administer and are taxed as little as possible. And they can make it easier to do cross-border business.

Many American entrepreneurs and people in the technology sector see the

market and the state as enemies locked in some kind of zero-sum death match. The Nordic model would seem to transcend that. Is the fact that so many entrepreneurs have come out of Sweden proof that you can have both a large, generous state sector and entrepreneurial success?

Sweden has always had a lot of successful entrepreneurs, even a century ago. Companies like Alfa Laval or Electrolux that become global success stories and are still around today. A few generations ago, you had companies like Tetra Pak and Ikea and H&M. And now you're seeing a wave of technology entrepreneurs. I think that has to do with the fact that we're a small market and people learn to speak foreign languages early. And because we have a harsh climate, we tend to like to travel abroad. So it's easy for Swedish entrepreneurs to think about trying to capture the world market rather than focusing on the domestic market.

Over the last decade, tax reform in Sweden has been very favorable to entrepreneurs and their investors. There is no capital gains tax when you're investing in private companies; there is no wealth tax; there is no inheritance tax. I don't know if there's a correlation between that and the fact that there have been so many successful entrepreneurs coming out of Sweden, but maybe it is a reason for those entrepreneurs not to move abroad.

The Atomico research suggests that some sectors have been more disrupted than others—enterprise software, e-commerce, and social communications, for example—while other areas, such as health care, education, and real estate, have yet to see much disruptive innovation. Is there something about those first sectors that makes them naturally disruptable, or is it just a matter of time and we should expect other sectors to follow?

My belief is that over time—and it can be a long time—all sectors in our economy will somehow be disrupted. Some sectors are easier to disrupt. As soon as there was broadband, it became quite easy to distribute media on the Internet, and that's when the media industry got disrupted. Then, you know, distributing newspapers and stuff like that as text and images became quite easy to do as well, so it was easy to disrupt. Disrupting telecommunications was quite easy to do once people started using broadband, laptops, and smartphones.

Health care is harder to disrupt, but you're starting to see already a lot of innovation there as well. It's something that I hope will be disrupted, because it's a very inefficient market. Software and biochemistry and biology are intersecting, and different sciences are going to provide some very interesting and disruptive things.

Education is the same; it is certainly starting to be disrupted. You have all the MOOCs [massive open online courses] making it possible for all with a smartphone to get access to the best teachers in the world. You have companies like Knewton (one of our investments), which are using algorithms to provide adaptive learning. That means that you can get your course material adapted in real time to suit your learning pattern, which means that you can get high efficiency. It hasn't really made a big dent in that sector yet. But that's something that we'll see for sure over the next decade.

Are you bullish or bearish about the future of technological innovation?
I think this is the best time to be a technologist and to be in this sector. And I'm probably going to say the same thing in ten years. I think that the increased penetration of technology and the different layers of technology building on top of each other and recombining just provides more and more opportunities and efficiencies. If you're a business leader and you start to say that there can be no more innovation, you should probably retire, because you will get disrupted.

Do you worry that in this new age of entrepreneurship, there's going to be increasing inequality, as the rewards from new ventures go to ever fewer people at the top?
Some companies can go from nothing to huge values in a very short time and make a few very smart people who have the right timing and a bit of luck very wealthy. And that is happening at the same time that there are people in our society who are living in poverty. But the technology itself is not creating poverty. If anything, technology makes things cheaper and allows people who are living in challenging conditions to get access to more opportunities.

Soon there will be as many mobile phones as there are people on this planet. Even a lot of people with very low disposable incomes have a smartphone, because they are becoming so cheap. And if you have the smartphone in your hand and you're unemployed, you can take an online course for free. You can learn something like software programming. You don't need to go to MIT to do that. You can do that from your smartphone, if you have time and if you have the will. I think that the Internet and technology actually make things more equal. They are an enabler for people to get more control over their lives. You don't need to have the right parents or get into the right school, because you can get the best education and training online. So I think it's a net positive.

One of the main focuses of Zennstrom Philanthropies is climate change. Do you think technology can provide the answer there, or will it require state action and international agreement (in which case we're all probably in big trouble)?
That is my hope. We've known about the need to reduce greenhouse gases for many years, and governments are not doing what they should in terms of making the reductions they need to. So in the short term, the world is unfortunately going to be worse off. But my belief is that in the long term, innovation and entrepreneurs are the solution to this, because over time, they will make renewable energy cheaper than fossil fuels. When that tipping point happens, then people will buy renewable energy.

I think there will also be a change in consumers' behavior, driven by the Internet, as the world becomes more transparent. In ten or 20 years, it is not going to be acceptable for any company to offer products or services which are not produced in a sustainable way. And the same thing goes with energy. Younger consumers—not you or me but the next generation—they're going to have different values, because of growing up in a world with transparency. That's my hope. I don't know if it's true, but as an entrepreneur, you sometimes have a feeling, and a hope, that innovation will change things for the better.

Start-Up Slowdown

How the United States Can Regain Its Entrepreneurial Edge

Robert Litan

Americans like to think of their country as a cradle of innovation. After all, the United States has produced many of the world's finest entrepreneurs, from Andrew Carnegie and Henry Ford to Steve Jobs and Mark Zuckerberg. The American obsession with innovation has even invaded popular culture. *Shark Tank*, a reality television show in which entrepreneurs pitch to potential angel investors, has reached its sixth season and draws more than six million viewers a week. *Silicon Valley*, a new comedy on HBO, follows the founders of a technology start-up as they attempt to strike it rich. Meanwhile, the near-celebrity status of prominent tech entrepreneurs, such as Zuckerberg and Elon Musk, has spurred interest in the so-called STEM subjects—science, technology, engineering, and math—and in entrepreneurship more generally.

The numbers, however, tell a different story. Over the past 30 years, the rate of start-up formation in the United States has slowed markedly, and the technology industry has come to be dominated by older companies. This presents a risk to innovation, because the most transformative leaps forward tend to come not from established firms but from entrepreneurs with little to lose. Indeed, start-ups commercialized most of the seminal technologies of the past several centuries, including the car, the airplane, the telegraph, the telephone, the computer, and the Internet search engine. If the United States wishes to reclaim its status as an innovation hub, it must reform a wide swath of policies—including those covering immigration, business regulation, health care, and education—to support new businesses.

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A NATIONAL DECLINE

Data on start-ups in the United States were not regularly compiled until 2008, when the U.S. Census Bureau created the Business Dynamics Statistics database, which tracks firm start-ups and shutdowns across the country. Using the data from 1977 to 2012, my colleague Ian Hathaway and I have published a series of reports for the Brookings Institution highlighting a startling observation: the ratio of new firms to all firms, or the "start-up rate," has been steadily decreasing. In 1978, start-ups—defined in the database as companies less than a year old—accounted for nearly 15 percent of all U.S. firms; by 2011, that figure had slipped to just eight percent. For the first time in three decades, business deaths exceeded business births.

This national decline mirrored similar shifts in all 50 states and in all but one of the country's 366 largest metropolitan centers. This includes California, with its two wellsprings of innovation, Silicon Valley and the Los Angeles–Orange

County region, where entrepreneurship rates once soared above the national average. The downward trend has affected all major industries, even the life-sciences sector, which includes pharmaceutical and medical-device businesses and has traditionally played a major role in new job creation. In 1990, around 2,600 new life-sciences firms started up, a number that grew to roughly 3,000 in 1997; by 2011, that number had fallen to 1,995.

Fewer start-ups has meant fewer high-growth firms, defined by the Organization for Economic Cooperation and Development as companies that experience three consecutive years of at least a 20 percent increase in the number of people they employ. According to researchers at the U.S. Bureau of Labor Statistics, the percentage of U.S. firms that met that criterion dropped from roughly three percent in 1994–97 to 1.5 percent in 2008–11. This drop is likely related to the decline in start-ups that took place during the same period.

These changes are surprising not only because they run counter to the image of the U.S. economy as highly entrepreneurial but also because they took place during a revolution in information technology that substantially lowered the costs of launching and expanding new businesses, thanks to cheaper software and hardware, a more global Internet, and the savings afforded by data storage in the "cloud." Granted, the Census Bureau's data set excludes firms where the founder is the only employee, which ignores the large and growing number of people who write smartphone applications or sell goods on online platforms such as eBay or Etsy. But there is a good reason for this exclusion: although individual entrepreneurs deserve applause, they do not benefit the economy the way larger firms do. Firms with at least one employee besides the founder have the potential to grow and, since 1980, have accounted for the vast majority of new jobs in the United States.

As newer firms have become scarcer, the number of older firms has multiplied. The proportion of U.S. companies considered mature, meaning at least 16 years old, rose from 23 percent of all firms in 1992 to 34 percent in 2011. Over the same period, the percentage of the work force employed at mature firms rose as well, from 60 percent to 72 percent. An optimist might conclude that the U.S. economy has simply rewarded economies of scale. In this view, a greater share of older firms represents a net benefit, since firms with more experience are more likely to succeed and provide stable employment.

But aging firms, like aging people, are also more risk averse. When they innovate, they are more likely to aim for incremental improvement rather than creative destruction or disruption. They also tend to be larger, more bureaucratic, and less flexible than start-ups when faced with changing technology and shifting consumer preferences. And older, more entrenched firms are harder to compete with than younger ones, which may explain why a larger share of older firms has coincided with a smaller share of start-ups.

Although similar data do not exist for firms in other countries, there is reason to worry that the United States may fall behind. The Organization for Economic Cooperation and Development began publishing global data on start-up rates in 2011, but the data go back only to 2006, two years before the

Upwardly mobile: at a programming conference in San Francisco, June 2014

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onset of the global economic crisis. Still, the data are instructive. Despite the fact that start-up rates across member countries fell on average, the rates in several countries—notably Australia, Portugal, Sweden, and the United Kingdom—have exceeded their pre-crisis levels. Put simply, if the United States cannot reverse its entrepreneurial slump, it risks losing its status as a global leader in innovation.

JUMP-STARTING BUSINESS

Some have suggested that start-up rates can be explained by demographic trends. Hathaway and I have shown, for example, that much of the variation in start-up rates across U.S. states may be linked to differential rates of population growth. If the rate of U.S. population growth continues to decline, as it has done fairly consistently since 1992, lower national rates of start-up formation may be inevitable. On the other hand, over the next decade, members of the oversize millennial generation will begin to enter their late 30s and early 40s, the peak ages to start a business. As they do so, start-up rates may begin to pick up, countervailing sluggish population growth. But policymakers should not wait ten years to see which of these trends wins out. Instead, there is much Washington can and should do now to encourage entrepreneurship.

First, Washington should reform U.S. immigration law. Immigrants, who tend to be less risk averse than the general population, have historically proved twice as likely to launch businesses as native-born Americans. According to a team of researchers at Duke University, immigrants were behind one in four technology start-ups between 1995 and 2005. In 2005, the researchers found, companies led by immigrant entrepreneurs employed 450,000 workers and generated $52 billion in sales. Yet the U.S. government has made it difficult for immigrants to stay in the United States, despite their clear benefit to the economy. The H1-B visa, for example, which allows companies to employ foreign workers in specialty fields, lasts just six years and can be obtained only through a lottery system. The H1-B system should be updated, but Congress should also make it easier for immigrant entrepreneurs to secure long-term visas and permanent-resident status. The bipartisan immigration bill that passed the Senate in 2013 took a step in this direction by creating an easier path to permanent residency for foreign students who earn a master's degree or a doctorate in one of the STEM fields. But the legislation has languished in the House of Representatives, where opponents want more piecemeal reform—or no reform at all. Given the political resistance to comprehensive reform, policymakers should prioritize easing restrictions on immigrant entrepreneurs, the benefits of which should be easy to sell to politicians on both sides of the aisle.

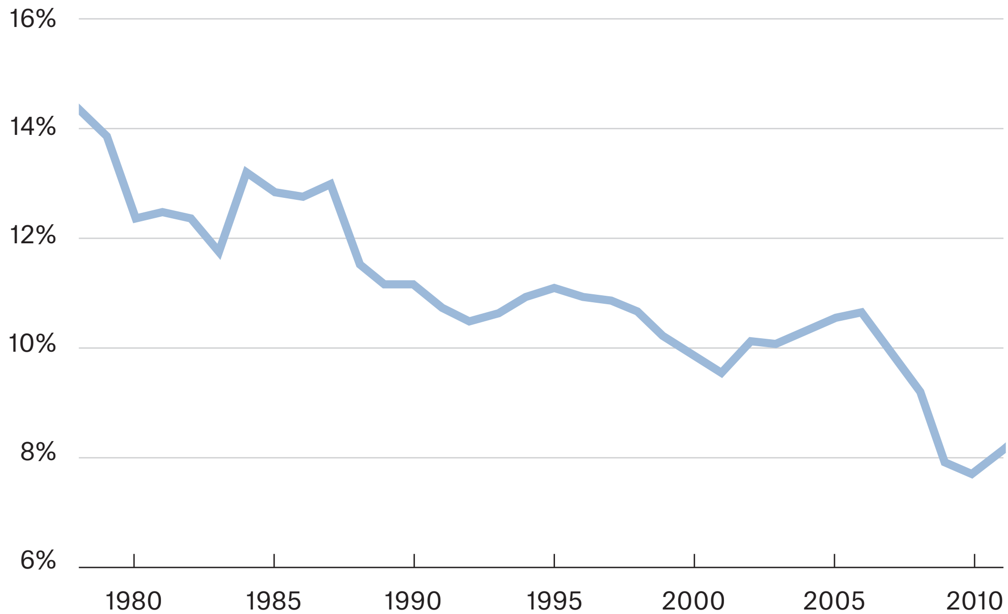
The more immigrants the United States turns away, the more it forfeits its entrepreneurial edge. Other countries, most notably Chile, have already begun to take advantage of Washington's flawed immigration policy. In 2010, Chile began paying foreign entrepreneurs to visit the country for six months and interact with locals. The program, dubbed Start-Up Chile, offered foreigners $40,000, plus free office space, Internet access, and mentorship, and asked only that they consider moving to Chile permanently. As of June 2014, the program had attracted more than 12,000 applicants from 112 countries and admitted 810 from 65 countries. Thus far, 132 of the resulting companies have opted to stay in Chile and have already brought in around $26 million in capital; global investors have begun to refer—only half-jokingly—to "Chilecon Valley." Other countries, particularly the United States, should take note.

In addition to following through with immigration reform, Washington needs to make it easier for people who are not hugely wealthy to invest in start-ups. In particular, the Securities and Exchange Commission should make it simpler for investors to buy equity in start-ups through so-called crowdfunding platforms, which allow new companies to tap a more economically diverse investor base online and to raise equity without first hiring an investment bank to underwrite their stock.

Congress took a step in this direction in April 2012 when it passed the Jumpstart Our Business Startups Act, which made it legal for companies to raise up to $1 million annually through crowdfunding. The law set a cap on the amount of equity individual investors could purchase to limit the amount of risk they would assume. The law also required firms to disclose basic information to potential investors, including the nature of the business, the identity of its directors, and any pertinent risk factors. The U.S. Securities and Exchange Commission is set to finalize the rules for the law's implementation by the end of 2014, and Congress should ensure that the rules do not excessively burden investors or companies looking to utilize the crowdfunding platforms, for example,

Start-Ups Winding Down

Percentage of U.S. Firms Less Than One Year Old, 1978–2011



SOURCE: U.S. Census Bureau, Business Dynamics Statistics; calculations by Ian Hathaway and Robert Litan.

by further capping investment. If the United States wishes to encourage more risk taking by those who launch companies, it should also tolerate more risk taking by those who fund them.

More broadly, Congress should regularly reevaluate and update federal regulations, many of which pose unnecessary barriers to entry for new firms. Federal regulations are expensive, often costing small businesses thousands of dollars per employee, and such costs pose a distinct disadvantage for younger and smaller firms, which rarely have the resources to hire full-time attorneys or compliance officers. To facilitate the dismantling of unnecessary regulations, Congress should include sunset provisions on all major federal rules so that every ten to 15 years or so, Congress is forced to reevaluate its regulations, removing those that do not pass a cost-benefit test and improving those that do. Congress could also authorize a bipartisan panel of experts to identify outmoded regulations and submit them on a regular basis to lawmakers for an up-or-down vote.

Historically, the U.S. health insurance system has also worked to the disadvantage of start-ups. Here, however, the news is mostly good. Prior to the passage of the Affordable Care Act in 2010, employees had a disincentive to leave established firms that gave them health insurance without regard to their health status. By prohibiting insurance companies from taking preexisting conditions into account when setting rates and by requiring everyone to buy insurance, the act encourages the employee mobility necessary for new business formation. If Congress modifies the act in the future, it must keep the provision protecting those with preexisting conditions, or risk discouraging employees, once again, from launching new firms. It should also keep—or find a workable alternative to—the individual mandate, which expands insurance populations to cover the higher costs of those with preexisting conditions. Otherwise, insurance pools run the risk of unraveling.

Of course, there is a limit to what government can do to support start-ups and entrepreneurs; the private sector must do more as well, and investors should experiment with ways to support new businesses. One new approach, the establishment of so-called business accelerators, represents a welcome step. In return for a small share of equity in qualifying start-ups, accelerators provide seed money, free office space, and access to potential funders. Launching a business can be a lonely experience, but accelerators surround entrepreneurs with peers and mentors, providing a sense of community usually found only at established companies. Accelerators have popped up not just in Silicon Valley but throughout the country—in Austin, New York, St. Louis, and Washington, D.C.—and the initial anecdotal results appear promising.

CLOSING THE GAP

Even if the United States successfully boosts the formation of new companies, it will have to contend with the dark side of innovation: the wealth inequalities that sometimes accompany technological change. Advances in robotics and information technology, in particular, have increased the demand for employees with strong technical backgrounds and curtailed the need for unskilled labor. Some economists believe that the revolution in information technology may end up benefiting only those workers whose salaries place them in the top ten to 20 percent of the income spectrum, thus widening the already substantial income gap between the wealthy and the poor.

It is not yet clear what impact an influx of start-ups would have on this problem—but there is reason to suspect it could make things worse. In recent years, hugely profitable start-ups have created relatively few new jobs and done little to spread the wealth. The popular text-messaging service WhatsApp employed only 55 people when Facebook acquired it for $19 billion last year; Instagram, a photo-sharing social networking site, had only 13 employees when Facebook bought it for $1 billion in 2012. If the majority of new companies resemble these successful technology firms, then any start-up renaissance will only magnify inequality. In addition, innovations in automation, robotics, and data processing could eliminate millions of jobs in the coming decades, pushing many workers into lower-wage positions or out of the labor force altogether.

Closing the wage gap, or at least reversing its growth, will require significantly overhauling public education systems so that they can better teach technological literacy. Being able to write computer code will soon be as important as being able to write in English, and students should begin learning to code as early as elementary school. Better education represents the best chance to level the playing field and expand the number of potential entrepreneurs.

An entrepreneurial revolution will require more than just coders, however. As the Nobel Prize–winning economist Edmund Phelps has argued, innovation requires the teaching of not just technical skills but also the humanities and the arts. Had Jobs not taken a calligraphy class at Reed College, for example, he might not have insisted on including a wide array of fonts in Apple computers—an innovation that gave his company an early edge over its competitors. Since Washington has little control over education policy at the state level, reform will have to proceed incrementally through experimentation in local school districts. The federal government and nongovernmental organizations should support and publicize these experiments so that states can learn from their successes and failures.

Entrepreneurs create the future and boost national economies. For the United States, economic strength is key to maintaining and strengthening its status as a world leader. Rousing the country from its entrepreneurial slumber will require deep structural change, but the stakes are high. In the balance hangs the welfare of future generations and the global leadership of the United States.

The Anti-Innovators

How Special Interests Undermine Entrepreneurship

James Bessen

For much of the last century, the United States led the world in technological innovation—a position it owed in part to well-designed procurement programs at the Defense Department and NASA. During the 1940s, for example, the Pentagon funded the construction of the first general-purpose computer, designed initially to calculate artillery-firing tables for the U.S. Army. Two decades later, it developed the data communications network known as the ARPANET, a precursor to the Internet. Yet not since the 1980s have government contracts helped generate any major new technologies, despite large increases in funding for defense-related R & D. One major culprit was a shift to procurement efforts that benefit traditional defense contractors while shutting out start-ups.

Bad procurement policy is just one reason the United States has begun to lose its technological edge. Indeed, the multibillion-dollar valuations in Silicon Valley have obscured underlying problems in the way the United States develops and adopts technology. An increase in patent litigation, for example, has reduced venture capital financing and R & D investment for small firms, and strict employment regulations have strengthened large employers and prevented the spread of knowledge and skills across the industry. Although the United States remains innovative, government policies have, across the board, increasingly favored powerful interest groups at the expense of promising young start-ups, stifling technological innovation.

The root of the problem is the corrosive influence of money in politics. As more intense lobbying and ever-greater campaign contributions become the norm, special interests are more able to sway public officials. Indeed, these interests have overpowered start-ups across the government—at the Pentagon, in the courts, and in various state legislatures.

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A STRICT SEPARATION

U.S. government procurement has spurred technological innovation since the early nineteenth century, when the U.S. War Department sought to develop the high-precision machines needed to make weapons from interchangeable parts. Over the next two centuries, government programs cultivated a corps of skilled engineers, technicians, and software developers fluent in cutting-edge technologies, who would later adapt them for general use in the private sector.

U.S. procurement programs worked so well in part because the Pentagon gave its business to a diverse group of private firms, including start-ups and university spinoffs such as Bolt, Beranek and Newman (now BBN Technologies), one of the companies that helped develop the Internet. It also required contractors to share their technologies with universities and other private firms, encouraging further innovation outside the government. By contrast, France and the United Kingdom often used government contracts to promote national telephone and computer companies, and the United Kingdom and the Soviet Union limited the interaction between government researchers and their civilian counterparts, cutting off the private sector from high-tech advancements. The Pentagon also encouraged contractors to adopt open technical standards—such as the set of protocols, established in 1982, that specified how data should be packaged and transmitted on the Internet—which allowed knowledge to spread quickly and easily.

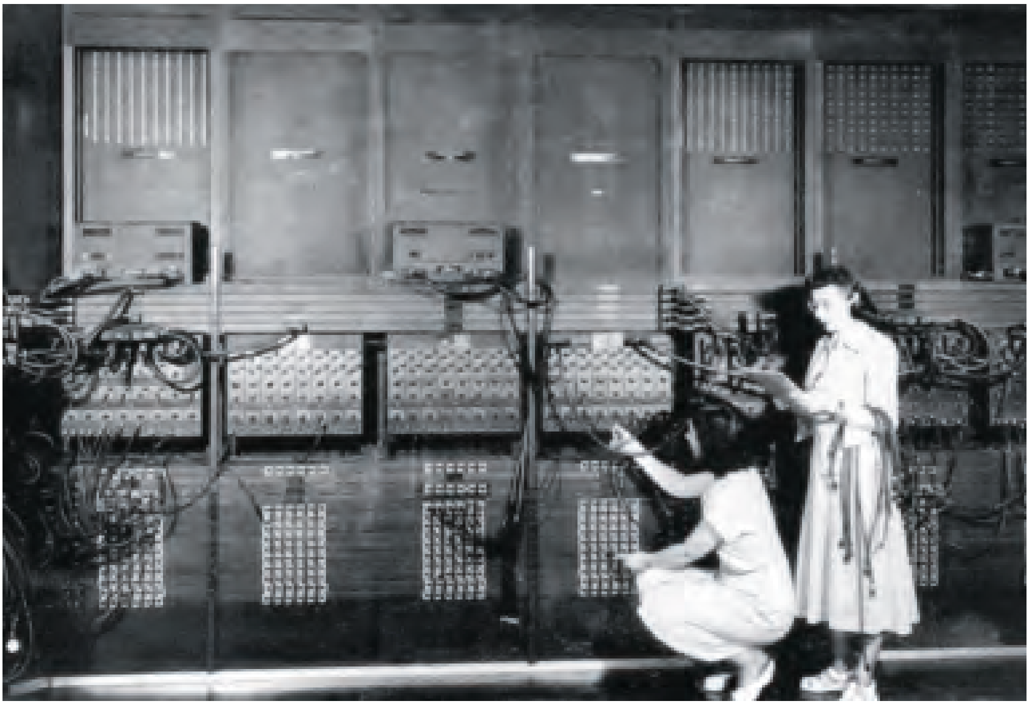
In the past few decades, however, procurement has strayed from this successful formula. Instead of awarding contracts to start-ups and spinoffs, the Pentagon has favored traditional defense contractors. The Defense Department tasks these contractors with meeting the military's narrow needs and too often prohibits them from sharing their work with universities or other companies. An example from the past reveals how problematic such policies can be. In 1977, when the Pentagon sought to create high-speed semiconductor chips, Congress prohibited the contractors hired from sharing their research. University researchers were effectively excluded from the program, and chipmakers were forced to separate their defense work from their commercial operations. Unlike the government procurement programs in the 1950s and 1960s, which spawned many start-ups, this billion-dollar program did little to commercialize new technology.

The more recent reliance on defense contractors reached an apex under Donald Rumsfeld's second term as secretary of defense, from 2001 to 2006, when the Pentagon restricted bidding to major contractors, slashed funding to university researchers, restricted the participation of noncitizens in its programs, and classified most of the technology it produced. The Pentagon has relaxed some of its regulations since then—one recent cyberwarfare research program sought out computer hackers—but the larger trend persists.

The reason for the shift is simple: large defense contractors have the money and influence to secure lucrative government contracts. Although procurement has been the province of lobbyists since President Dwight Eisenhower's 1961 warning about the "military-industrial complex," the pure quantity of cash has skyrocketed. Since 1990, the defense industry has contributed more than $200 million to political campaigns, and in 2012 alone, it spent roughly $132 million on more than 900 lobbyists. Congress has its own interests, too. The defense R & D budget regularly includes pet projects for select congressional districts, most of which benefit large contractors, not universities and new firms.

OVERLY LITIGIOUS

Start-ups suffer not only from the Pentagon's policies but also from the actions of the courts. The proliferation of patent litigation, in particular, has become a serious problem for small software firms, many of which make easy targets for aggressive lawyers. Such lawsuits are a relatively new phenomenon in the U.S. software industry, which grew up patent free. In 1972, the Supreme Court ruled that most



A series of tubes: programming a U.S. Army computer in Philadelphia, 1946

software could not be patented, reasoning that unlike mechanical devices, abstract software algorithms are difficult to tie to a specific inventive concept. A decade later, however, after persistent lobbying by patent lawyers, Congress created the Court of Appeals for the Federal Circuit, a new body designed to hear all appeals in patent cases. Such specialization is extremely rare, for good reason: it promotes boosterism. The new court, constantly seeking to expand its role, began sidestepping the Supreme Court in the 1990s, extending patent law to cover software. It also loosened its restrictions on vague-sounding patents, such as those for "information-manufacturing machines."

The number of patents and lawsuits has surged as a result. A 2013 study by the Government Accountability Office found that the number of defendants in patent lawsuits more than doubled between 2007 and 2011; software patents accounted for 89 percent of the increase.

Many of these lawsuits are the work of "patent trolls"—companies that exist solely to buy and litigate patents. Patent trolls are particularly drawn to software patents, which are often vague enough to be widely applicable. In the early 1980s, for example, one inventor developed a kiosk for retail stores that could produce music tapes from digital downloads, filing a patent for an "information-manufacturing machine" at "a point of sale location." A patent troll named E-Data later acquired the patent and interpreted it to cover all sorts of digital e-commerce, making millions of dollars from suits against more than 100 companies. Lodsys, another patent troll, bought an equally vague patent from 1992, which covered "methods and systems for gathering information from units of

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a commodity across a network." It has now threatened to sue hundreds of smartphone application developers for infringement. As long as the courts remain receptive to their suits, patent trolls appear to be here to stay. And their suits are expensive. In 2011, the roughly 5,000 firms named as defendants in patent lawsuits paid more than $29 billion out of pocket.

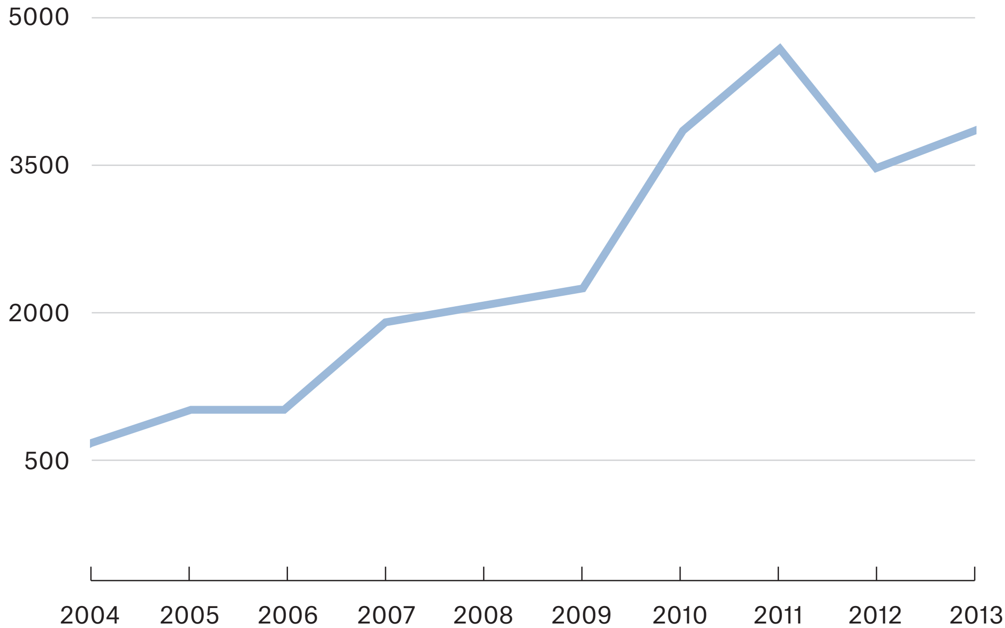
In the early years of this century, software companies began pushing Congress to reform patent law, and in 2011, it passed the America Invents Act. More than 1,000 lobbyists worked on the bill, including ten former members of Congress, 280 former congressional staffers, and more than 50 former government officials. In the end, the software lobby was simply overpowered by patent lawyers and pharmaceutical companies, both of which benefit from the status quo in patent law—and are bigtime political donors. The new law did little to deter patent trolls or to discourage the vague software patents that allow trolls to abuse the system. In fact, the law granted relief to only one industry: finance. Thanks to pressure from politically powerful Wall Street executives, the law included a special provision allowing financial firms to challenge patents covering their services and products.

In December 2013, another bill designed to weaken patent trolls passed the House of Representatives, but pharmaceutical companies and trial lawyers once again blocked reform. This past May, Senate Majority Leader Harry Reid prevented the bill from coming to the Senate floor for a vote. As long as reform stalls, software entrepreneurs will continue to suffer. President Barack Obama acknowledged as much in October, at a town hall meeting with technology entrepreneurs in California, where he cited concerns about "folks filing phony patents, and costing some of our best innovators tons of money in court, or even if they don't go to court, having to pay them off just because they're making a bogus claim."

In much the same way, copyright law also punishes innovators. For much of the last century, copyright law was flexible enough to accommodate new technology—whether it was the player piano, the phonograph, the radio, the jukebox, the videotape player, or cable television. Sometimes the companies behind the new technologies had to pay licensing fees, but often they were initially exempt from copyright restrictions. Congress waited to intervene until new technologies were established enough to work out a fair compromise. Now, however, powerful content providers lobby Congress to ensure that new distribution channels are taxed or restricted while still in their infancy. In 1988, for example, lobbyists for network broadcasters and cable television companies convinced Congress to restrict the market for emerging satellite television providers, requiring them to pay hefty licensing fees to transmit to subscribers. A decade later, lobbyists for broadcast radio pushed for the Digital Millennium Copyright Act, which forced Internet radio companies to pay larger royalties than those paid by traditional stations. Rather than accommodating new technologies, in other words, copyright law has been used to resist them.

Trolling for Cash

Number of Companies Sued by U.S. Patent Trolls, 2004–13



SOURCE: PatentFreedom, "Operating Company Parties in NPE Lawsuits Over Time," 2014.

CONSTRAINING COMPETITION

Yet another threat to start-ups comes from state legislatures, in the form of increasingly cumbersome employment regulations. Historically, technical workers such as mechanics and engineers moved freely from job to job, spreading new technologies across the industry. Today, however, a variety of regulations limit that mobility. Some states—Florida and Massachusetts, for instance—have made it easy for employers to enforce noncompete agreements, which prohibit employees from leaving one company to join or start another in the same industry. According to research conducted by the law firm Beck Reed Riden, the number of published U.S. court decisions involving noncompete agreements rose 61 percent from 2002 to 2012, to 760 cases. This is bad news for innovation, since such agreements make it difficult for start-ups to recruit employees away from established companies.

Consider the difference between California, whose courts generally do not enforce these agreements, and Massachusetts, whose do. Silicon Valley has become a breeding ground for new technology firms and new technologies, whereas Massachusetts' Route 128 has fallen behind. It is telling that the Facebook co-founder Mark Zuckerberg moved his company from Cambridge to Palo Alto as it took off. This past summer, state lawmakers in Massachusetts considered a ban on noncompete agreements, but powerful business lobbying groups fought hard against it, arguing that the agreements keep employees from stealing trade secrets and proprietary information.

Interest groups are also lobbying state legislatures to enforce strict requirements for certification to work in certain fields, another barrier to innovation. In the past few decades, occupational licensing has grown rapidly. In the 1950s, only 70 professions had licensing requirements; by 2008, more than 800 did. Political scientists have tied this surge to aggressive lobbying by professional associations. In 1995 alone, 850 licensure bills related to health professions were introduced in state legislatures, and more than 300 became law. But excessive licensing can be overly restrictive. In many states, for example, licensing regulations prevent nurse practitioners and dental hygienists from performing new preventive health procedures—such as applying protective varnishes and sealants to teeth—by restricting the carrying out of these procedures to doctors and dentists. Similar restrictions limit the adoption of new telemedicine and teledentistry technologies, which use videoconferencing and data transfer through smartphones and the Internet to connect doctors and dentists to patients in rural areas. In Alaska, for example, dental therapists travel to remote Native Alaskan villages to treat patients, often performing procedures with the help of dentists who consult remotely. In other states, however, occupational regulations limit the procedures dental therapists and hygienists can perform outside of a traditional dentist's office, restricting the use of these technologies and reducing incentives to innovate further.

LOBBYING FOR THE FUTURE

Politics is about balancing competing interests. Opposing factions battle one another but ultimately compromise, each getting something it wants. In recent decades, however, start-ups have consistently lost out. Whereas established interests have the money and lobbying power to buy political influence, newer firms offer only the promise of future profits. As Jim Cooper, a Democratic congressman from Tennessee, has framed the problem, "The future has no lobbyists."

Balance will be difficult to restore, given that money will likely remain a fixture of the U.S. political system. The cost of running for Congress has increased by more than 500 percent since 1984, and spending by registered Washington lobbyists has soared, more than doubling between 1998 and 2008. Efforts to curtail lobbying have largely failed, with the Supreme Court restricting legislation intended to rein in campaign spending. But if technology start-ups continue to suffer, the United States may lose what has been the very secret to its success.

The Innovative State

Governments Should Make Markets, Not Just Fix Them

Mariana Mazzucato

The conventional view of what the state should do to foster innovation is simple: it just needs to get out of the way. At best, governments merely facilitate the economic dynamism of the private sector; at worst, their lumbering, heavy-handed, and bureaucratic institutions actively inhibit it. The fast-moving, risk-loving, and pioneering private sector, by contrast, is what really drives the type of innovation that creates economic growth. According to this view, the secret behind Silicon Valley lies in its entrepreneurs and venture capitalists. The state can intervene in the economy—but only to fix market failures or level the playing field. It can regulate the private sector in order to account for the external costs companies may impose on the public, such as pollution, and it can invest in public goods, such as basic scientific research or the development of drugs with little market potential. It should not, however, directly attempt to create and shape markets. A 2012 *Economist* article on the future of manufacturing encapsulated this common conception. "Governments have always been lousy at picking winners, and they are likely to become more so, as legions of entrepreneurs and tinkerers swap designs online, turn them into products at home and market them globally from a garage," the article stated. "As the revolution rages, governments should stick to the basics: better schools for a skilled workforce, clear rules and a level playing field for enterprises of all kinds. Leave the rest to the revolutionaries."

That view is as wrong as it is widespread. In fact, in countries that owe their growth to innovation, the state has historically served not as a meddler in the private sector but as a key partner of it—and often a more daring one, willing to take the risks that businesses won't. Across the entire innovation chain, from basic research to commercialization, governments have stepped up with needed investment that the private sector has been too scared to provide. This spending has proved transformative, creating entirely new markets and sectors, including the Internet, nanotechnology, biotechnology, and clean energy.

Today, however, it has become harder and harder for governments to think big. Increasingly, their role has been limited to simply facilitating the private sector and, perhaps, nudging it in the right direction. When governments step beyond that role, they immediately get accused of crowding out private investment and ineptly trying to pick winners. The notion of the state as a mere facilitator, administrator, and regulator started gaining wide currency

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in the 1970s, but it has taken on newfound popularity in the wake of the global financial crisis. Across the globe, policymakers have targeted public debt (never mind that it was private debt that led to the meltdown), arguing that cutting government spending will spur private investment. As a result, the very state agencies that have been responsible for the technological revolutions of the past have seen their budgets shrink. In the United States, the budget "sequestration" process has resulted in $95 billion worth of cuts to federal R & D spending from 2013 to 2021. In Europe, the EU's "fiscal compact," which requires states to drop their fiscal deficits down to three percent of GDP, is squeezing educational and R & D spending.

What's more, thanks in part to the conventional wisdom about its dynamism and the state's sluggishness, the private sector has been able to successfully lobby governments to weaken regulations and cut capital gains taxes. From 1976 to 1981 alone, after heavy lobbying from the National Venture Capital Association, the capital gains tax rate in the United States fell from 40 percent to 20 percent. And in the name of bringing Silicon Valley's dynamism to the United Kingdom, in 2002, the government of British Prime Minister Tony Blair reduced the time that private equity funds have to be invested to be eligible for tax reductions from ten years to two years. These policies increase inequality, not investment, and by rewarding short-term investments at the expense of long-term ones, they hurt innovation.

Getting governments to think big about innovation is not just about throwing more taxpayer money at more activities. It requires fundamentally reconsidering the traditional role of the state in the economy. Specifically, that means empowering governments to envision a direction for technological change and invest in that direction. It means abandoning the shortsighted way public spending is usually evaluated. It means ending the practice of insulating the private sector from the public sector. And it means figuring out ways for governments and taxpayers to reap some of the rewards of public investment, instead of just the risks. Only once policymakers move past the myths about the state's role in innovation will they stop being, as John Maynard Keynes put it in another era, "the slaves of some defunct economist."

THE FAILURE OF MARKET FAILURE

According to the neoclassical economic theory that is taught in most economics departments, the goal of government policy is simply to correct market failures. In this view, once the sources of failure have been addressed—a monopoly reined in, a public good subsidized, or a negative externality taxed—market forces will efficiently allocate resources, enabling the economy to follow a new path to growth. But that view forgets that markets are blind, so to speak. They may neglect societal or environmental concerns. And they often head in suboptimal, path-dependent directions. Energy companies, for example, would rather invest in extracting oil from the deepest confines of the earth than in clean energy.

In addressing societal challenges such as climate change, youth unemployment, obesity, aging, and inequality, states must lead—not by simply fixing market failures

You didn't build that: an iPhone in Washington, D.C., October 2013

REUTERS / KEVIN LAMARQUE

but by actively creating markets. They must direct the economy toward new "techno-economic paradigms," in the words of the technology and innovation scholar Carlota Perez. These directions are not generated spontaneously from market forces; they are largely the result of deliberate state decisions. In the mass-production revolution, for example, the state invested in both the underlying technologies and their diffusion across the economy. On the supply side, the U.S. military-industrial complex, beginning in World War II, invested in improvements in aerospace, electronics, and materials. On the demand side, the U.S. government's postwar subsidization of suburban living—building roads, backing mortgages, and guaranteeing incomes through the welfare state—enabled workers to own homes, buy cars, and consume other mass-produced goods.

As Michael Shellenberger and his colleagues at the progressive think tank the Breakthrough Institute have documented, despite the mythmaking about how the shale gas boom is being driven by wildcatting entrepreneurs operating independently from the state, the U.S. federal government invested heavily in the technologies that unleashed it. In 1976, the Morgantown Energy Research Center and the Bureau of Mines launched the Eastern Gas Shales Project, which demonstrated how natural gas could be recovered from shale formations. That same year, the federal government opened the Gas Research Institute, which was funded through a tax on natural gas production and spent billions of dollars on research into shale gas. And the Sandia National Laboratories, part of the U.S. Department of Energy, developed the 3-D geologic mapping technology used for fracking operations.

Likewise, as the physician Marcia Angell has shown, many of the most promising new drugs trace their origins to research done by the taxpayer-funded National Institutes of Health, which has an annual budget of some $30 billion. Private pharmaceutical companies, meanwhile, tend to focus more on the D than the R part of R & D, plus slight variations of existing drugs and marketing.

Silicon Valley's techno-libertarians might be surprised to find out that Uncle Sam funded many of the innovations behind the information technology revolution, too. Consider the iPhone. It is often heralded as the quintessential example of what happens when a hands-off government allows genius entrepreneurs to flourish, and yet the development of the features that make the iPhone a smartphone rather than a stupid phone was publicly funded. The progenitor of the Internet was ARPANET, a program funded by the Defense Advanced Research Projects Agency (DARPA), which is part of the Defense Department, in the 1960s. GPS began as a 1970s U.S. military program called Navstar. The iPhone's touchscreen technology was created by the company FingerWorks, which was founded by a professor at the publicly funded University of Delaware and one of his doctoral candidates, who received grants from the National Science Foundation and the CIA. Even Siri, the iPhone's cheery, voice-recognizing personal assistant, can trace its lineage to the U.S. government: it is a spinoff of a DARPA artificial-intelligence project. None of this is to suggest that Steve Jobs and his team at Apple were not brilliant in how they put together existing technologies. The problem, however, is that failing to admit the public side of the story puts future government-funded research at risk.

For policymakers, then, the question should not be whether to pick particular directions when it comes to innovation, since some governments are already doing that, and with good results. Rather, the question should be how to do so in a way that is democratically accountable and that solves the most pressing social and technological challenges.

A SMARTER STATE

State spending on innovation tends to be assessed in exactly the wrong way. Under the prevailing economic framework, market failures are identified and particular government investments are proposed. Their value is then appraised through a narrow calculation that involves heavy guesswork: Will the benefits of a particular intervention exceed the costs associated with both the offending market failure and the implementation of the fix? Such a method is far too static to evaluate something as dynamic as innovation. By failing to account for the possibility that the state can create economic landscapes that never existed before, it gives short shrift to governments' efforts in this area. No wonder economists often characterize the public sector as nothing more than an inefficient version of the private sector.

This incomplete way of measuring public investment leads to accusations that by entering certain sectors, governments are crowding out private investment. That charge is often false, because government investment often has the effect of "crowding in," meaning that it stimulates private investment and expands the overall pie of national output,


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which benefits both private and public investors. But more important, public investments should aim not only to kick-start the economy but also, as Keynes wrote, "to do those things which at present are not done at all." No private companies were trying to put a man on the moon when NASA undertook the Apollo project.

Without the right tools for evaluating investments, governments have a hard time knowing when they are merely operating in existing spaces and when they are making things happen that would not have happened otherwise. The result: investments that are too narrow, constrained by the prevailing techno-economic paradigm. A better way of evaluating a given investment would be to consider whether it taught workers new skills and whether it led to the creation of new technologies, sectors, or markets. When it comes to government spending on pharmaceutical research, for example, it might make sense to move past the private sector's fixation on drugs and fund more work on diagnostics, surgical treatments, and lifestyle changes.

Governments suffer from another, related problem when it comes to contemplating investments: as a result of the dominant view that they should stick to fixing market failures, they are often ill equipped to do much more than that. To avoid such problems as a regulatory agency getting captured by business, the thinking goes, the state must insulate itself from the private sector. That's why governments have increasingly outsourced key jobs to the private sector. But that trend often rids them of the knowledge necessary for devising a smart strategy for investing in innovation and makes it harder to attract top talent. It creates a self-fulfilling prophecy: the less big thinking a government does, the less expertise it is able to attract, the worse it performs, and the less big thinking it is allowed to do. Had there been more information technology capacity within the U.S. government, the Obama administration would probably not have had such difficulty rolling out HealthCare.gov, and that failure will likely lead to only more outsourcing.

In order to create and shape technologies, sectors, and markets, the state must be armed with the intelligence necessary to envision and enact bold policies. This does not mean that the state will always succeed; indeed, the uncertainty inherent in the innovation process means that it will often fail. But it needs to learn from failed investments and continuously improve its structures and practices. As the economist Albert Hirschman emphasized, the policymaking process is by its nature messy, so it is important for public institutions to welcome the process of trial and error. Governments should pay as much attention to the business school topics of strategic management and organizational behavior as private companies do. The status quo approach, however, is to focus not on making the government more competent but on downsizing it.

PROFIT AND LOSS

Since governments often undertake courageous spending during the riskiest parts of the innovation process, it is key that they figure out how they can socialize not just the risks of their investments but also the rewards. The U.S. government's Small Business Innovation Research program, for example, offers high-risk financing to companies at much earlier stages than most private venture capital firms do; it funded Compaq and Intel when they were start-ups. Similarly, the Small Business Investment Company program, an initiative under the auspices of the U.S. Small Business Administration, has provided crucial loans and grants to early stage companies, including Apple in 1978. In fact, the need for such long-term investments has only increased over time as venture capital firms have become more short term in their outlook, emphasizing finding an "exit" for each of their investments (usually through a public offering or a sale to another company) within three years. Real innovation can take decades.

As is the nature of early stage investing in technologies with uncertain prospects, some investments are winners, but many are losers. For every Internet (a success story of U.S. government financing), there are many Concordes (a white elephant funded by the British and French governments). Consider the twin tales of Solyndra and Tesla Motors. In 2009, Solyndra, a solar-power-panel start-up, received a $535 million guaranteed loan from the U.S. Department of Energy; that same year, Tesla, the electric-car manufacturer, got approval for a similar loan, for $465 million. In the years afterward, Tesla was wildly successful, and the firm repaid its loan in 2013. Solyndra, by contrast, filed for bankruptcy in 2011 and, among fiscal conservatives, became a byword for the government's sorry track record when it comes to picking winners. Of course, if the government is to act like a venture capitalist, it will necessarily encounter many failures. The problem, however, is that governments, unlike venture capital firms, are often saddled with the costs of the failures while earning next to nothing from the successes. Taxpayers footed the bill for Solyndra's losses yet got hardly any of Tesla's profits.

Economists may argue that the state already receives a return on its investments by taxing the resulting profits. The truth is more complicated. For one thing, large corporations are masters of tax evasion. Google—whose game-changing search algorithm, it should be noted, was developed with funding from the National Science Foundation—has lowered its U.S. tax bill by funneling some of its profits through Ireland. Apple does the same by taking advantage of a race to the bottom among U.S. states: in 2006, the company, which is based in Cupertino, California, set up an investment subsidiary in Reno, Nevada, to save money.

Fixing the problem is not just a matter of plugging the loopholes. Tax rates in the United States and other Western countries have been falling over the past several decades precisely due to a false narrative about how the private sector serves as the sole wealth creator. Government revenues have also shrunk due to tax incentives aimed at promoting innovation, few of which have been shown to produce any R & D that would not have happened otherwise. What's more, given how mobile capital is these days, a particular government that has funded a given company might not be able to tax it since it may have moved abroad. And although taxes are effective at paying for the basics, such as education, health care, and research, they don't begin to cover the cost of making direct investments in companies or specific technologies. If the state is being asked to make such investments—as will increasingly be the case as financial markets become even more focused on the short term—then it will have to recover the inevitable losses that arise from this process.

There are various ways to do so. One is to attach strings to the loans and guarantees that governments hand out to businesses. For example, just as graduates who receive income-contingent student loans get their repayments adjusted based on their salaries, the recipients of state investments could have their repayments adjusted based on their profits.

Another way for states to reap greater returns involves reforming the way they partner with businesses. Public-private partnerships should be symbiotic, rather than parasitic, relationships. In 1925, the U.S. government allowed AT&T to retain its monopoly over the phone system but required the company to reinvest its profits in research, a deal that led to the formation of Bell Labs. Today, however, instead of reinvesting their profits, large companies hoard them or spend them on share buybacks, stock options, and executive pay. Research by the economist William Lazonick has borne this out: "The 449 companies in the S&P 500 index that were publicly listed from 2003 through 2012 . . . used 54% of their earnings—a total of $2.4 trillion—to buy back their own stock."

An even bolder plan would allow the state to retain equity in the companies it supports, just as private venture capital firms do. Indeed, some countries adopted this model long ago. Israel's Yozma Group, which manages public venture capital funds, has backed—and retained equity in—early stage companies since 1993. The Finnish Innovation Fund, or Sitra, which is operated under the Finnish parliament, has done the same since 1967, and it was an early investor in Nokia's transformation from a rubber company into a cell-phone giant. Had the U.S. government had a stake in Tesla, it would have been able to more than cover its losses from Solyndra. The year Tesla received its government loan, the company went public at an opening price of $17 a share; that figure had risen to $93 by the time the loan was repaid. Today, shares in Tesla trade above $200.

The prospect of the state owning a stake in a private corporation may be anathema to many parts of the capitalist world, but given that governments are already investing in the private sector, they may as well earn a return on those investments (something even fiscal conservatives might find attractive). The state need not hold a controlling stake, but it could hold equity in the form of preferred stocks that get priority in receiving dividends. The returns could be used to fund future innovation. Politicians and the media have been too quick to criticize public investments when things go wrong and too slow to reward them when things go right.

THE NEXT REVOLUTION

Past technological revolutions—from railroads to the automobile to the space program to information technology—did not come about as the result of minor tinkering with the economic system. They occurred because states undertook bold missions that focused not on minimizing government failure but on maximizing innovation. Once one accepts this more proactive state purpose, the key questions of economic policy get reframed. Questions about crowding out private investment and unwisely picking winners fall by the wayside as more dynamic questions—about creating the types of public-private interactions that can produce new industrial landscapes—rise to the top.

Today, many countries, from China to Denmark to Germany, have settled on their next mission: green energy. Given the potential benefits and the amount of money at play, it is crucial that governments back this mission the right way. For starters, they must not only pick various technologies or sectors to invest in but also ask what they want from those sectors. For example, if what governments want from the energy sector is a stable energy supply, then shale gas will do, but if the mission is to mitigate climate change, then it won't. In fact, mission-oriented policies need to foster interactions among multiple fields. NASA's mission to the moon required the interaction of many different sectors, from rocketry to telecommunications to textiles. Likewise, the green energy revolution will require investment not just in wind energy, solar power, and biofuels but also in new engines, new ways of more efficiently maintaining infrastructure, and new ways of making products last longer. Accordingly, the state should take its cue from the venture capital world and diversify its portfolio, spreading capital across many different technologies and enterprises.

In making green investments, governments should fund those technologies that the private sector has ignored and provide a strong, clear direction for change, letting various entrepreneurs experiment with the specifics. Governments should provide ambitious targets, not in the old command-and-control style but through a combination of carrots and sticks. The German government has followed this approach in its energy-transition initiative, or *Energiewende*, which is designed to phase out nuclear energy and substitute it with renewables; it is doing this by setting lofty goals for carbon emissions reductions and subsidizing technological development of wind and solar power.

More broadly, governments should strike agreements that allow them to share in the profits from their successful investments. And most of all, they should build the public agencies of the future, turning them into hotbeds of creativity, adaptation, and exploration. That will require abandoning the current obsession with limiting the state's intervention to fixing problems after they have happened—and smashing the popular myth that the state cannot innovate.

The Power of Market Creation

How Innovation Can Spur Development

Bryan C. Mezue, Clayton M. Christensen, and Derek van Bever

Most explanations of economic growth focus on conditions or incentives at the global or national level. They correlate prosperity with factors such as geography, demography, natural resources, political development, national culture, or official policy choices. Other explanations operate at the industry level, trying to explain why some sectors prosper more than others. At the end of the day, however, it is not societies, governments, or industries that create jobs but companies and their leaders. It is entrepreneurs and businesses that choose to spend or not, invest or not, hire or not.

In our research on growth, therefore, we have taken the opposite approach, working not from the top down but from the bottom up, adopting the perspective of the firm and the manager. From this vantage point, we have learned that different types of innovation have radically different effects on economic and employment growth. This insight gives entrepreneurs, policymakers, and investors the ability to collaborate as never before to create the conditions most likely to unlock sustained prosperity, particularly in the developing world. We argue that there exists a well-established model of company-level investment and innovation that leads to transformative economic development and national prosperity, has been remarkably consistent at explaining past successes, and can provide direction to stakeholders in what to look for and what to build in the future.

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VARIETIES OF INNOVATION

Our model targets innovation as the fundamental unit of analysis, since most investments are focused on that. And innovation, in turn, comes in three varieties. The first is what we call "sustaining innovation," the purpose of which is to replace old products with new and better ones. Such innovations are important, because they keep markets vibrant and competitive. Most of the changes that one sees in the market are sustaining innovations. But these are by nature substitutive, in that if a business succeeds in selling a better product to its existing customers, they won't buy the old product anymore. When Samsung releases an improved model of its flagship smartphone, sales of its old versions drop quickly. When Toyota convinces consumers to buy a hybrid Prius, they don't buy a Camry. Investments in sustaining innovations, therefore, rarely create much net growth within the companies that develop and sell them. And rarely do they lead to new jobs to fuel macroeconomic growth.

"Efficiency innovation" is the second type; it helps companies produce more for less. Efficiency innovations allow companies to make and sell established products or services at lower prices. The Walmart retail model, for example, is an efficiency innovation. Walmart can sell the same products to the same customers as a traditional department store, such as Macy's, does at prices 15 percent lower and with half the inventory. In every competitive economy, efficiency innovations are critical to companies' survival. But by their very nature of producing more with less, efficiency innovations entail eliminating jobs or outsourcing them to an even more efficient provider. In addition to being able to produce more with fewer people, efficiency innovations make capital more efficient, improving cash flow.

The third type is "market-creating innovation." When most industries emerge, their products and services are so costly and inaccessible that only the wealthy can buy and use them. Market-creating innovations transform such offerings into products and services that are cheap enough and accessible enough to reach an entirely new population of customers. The Model T Ford, the personal computer, the smartphone, and online equity trading are examples of market-creating innovations. Because many more people can buy such products, the innovators need to hire more people to make, distribute, and service them. And because market-creating innovations are simpler and lower cost, the supply chains that are used for sustaining innovations don't support them. This makes it necessary to build new supply networks and establish new distribution channels in order to create a new market. Market-creating innovators create new growth and new jobs.

Market-creating investments require two things: an entrepreneur who spots an unfulfilled customer need and the presence of an economic platform (that is, an enabling technology or feature in the product or business model that brings significant advantages in economies of scale). Kenya's M-Pesa service, for example, has succeeded in addressing the lack of consumption of banking services across the country by using a wireless telecommunications platform. When M-Pesa was released in 2007, fewer than 20 percent of Kenyans used banks; today, more than 80 percent do. The South African telecommunications giant MTN, meanwhile, ushered in the cell-phone revolution across the continent by combining telecommunications infrastructure with low-cost phones targeted at nonconsumers.

Any strong economy has a mix of all three classes of innovation at any given time. But only market-creating innovations bring the permanent jobs that ultimately create prosperity. By targeting nonconsumption, market-creating innovations turn the liabilities of developing nations—the diverse unmet needs of their populaces—into assets. In the process, they create new value networks, build new capabilities, and generate sustained employment. This feeds a virtuous circle, as innovators move up the ladder to more sophisticated nonconsumption opportunities.

HOW MARKET-CREATING INNOVATION WORKS

Our early research seems to show that market-creating innovation has been an

Growth engine: testing at Embraer in Brazil, October 2014

REUTERS / ROOSEVELT CASSIO

important factor in every nation that has managed to achieve transformative growth and prosperity. Postwar Japan offers perhaps the best example. The Japanese economy was obliterated in World War II, so its challenge in many ways was less to develop from scratch than to rebuild. Japan's success in that effort has often been attributed to national pride and a strong work ethic, to the vision of government agencies such as what was then the Ministry of International Trade and Industry, or to excellence in science and engineering education. But such explanations have lost their persuasive force as Japan's economy has stagnated in recent decades: a constant cannot explain a variable. In retrospect, a more powerful explanation for the country's postwar growth is its success with market-creating innovations in motorcycles, automobiles, consumer electronics, office equipment, and steel.

Consider the Japanese motorcycle industry. From a group of more than 200 motorcycle makers in the 1950s, Honda, Kawasaki, Suzuki, and Yamaha emerged to captain the industry's development at home and abroad. These "Big Four" firms did not seek growth by stealing market share from existing leaders in motorcycles. Rather, they targeted nonconsumption. When the Japanese Diet passed an amendment to the country's Road Traffic Control Law in 1952 allowing younger drivers to ride motorcycles, Suzuki was one of the first companies to adapt its offerings for younger consumers, with its low-end 60cc Diamond Free bike. Similarly, Honda launched the 1952 50cc Cub F-Type to target the growing number of small businesses that needed delivery vehicles but couldn't afford large ones. Honda positioned the motorcycle at the affordable price of 25,000 yen (about $70) and provided a 12-month installment financing plan. Domestic competition among firms vying for the business of consumers with little disposable income caused them to integrate backward in components and forward in distribution channels. This created jobs in Japan beyond the Big Four themselves, and it also gave them the ability to export their motorcycles to the United States and Europe and compete for new consumers in those markets as well.

The same pattern was seen with Panasonic, Sharp, and Sony in consumer electronics; Nissan and Toyota in cars; and Canon, Kyocera, and Ricoh in office equipment. They all followed a two-stage strategy of competing against nonconsumption in the domestic Japanese market first and then pursuing the same strategy abroad.

This model has been replicated in South Korea, where market-creating innovators, such as Samsung, which have been pivotal to the country's economic rise, studied the Japanese experience closely. Samsung was founded as a trading company but launched an electronics subsidiary in 1969 to manufacture products that would eradicate domestic nonconsumption of entertainment and cooling technologies. Samsung Electronics' first product was a black-and-white TV, produced jointly with the Japanese companies NEC and Sumitomo. Soon after, Samsung studied Japanese models to produce some of South Korea's first cheap electric fans, and then the company graduated to low-cost air conditioners. By launching a continuous stream of market-creating innovations, Samsung has become one of the most recognized brands in the world and one of the largest single contributors to South Korea's GDP.

In China, too, market creators have built domestic niches into regional or global footholds, in industries ranging from consumer durables to construction equipment. Haier started out in 1984 as a market-creating innovator that produced mini-refrigerators for Chinese nonconsumers, and then it leveraged a partnership with the German firm Liebherr to acquire technology and equipment. By 2011, the company had disrupted many global incumbents in the "white goods" market with product lines inspired by its experience in China, gaining a global market share of 7.8 percent. Similarly, Sany was launched in 1989 as a small materials-welding shop for an underserved town in Hunan Province. It leveraged its understanding of local needs and the latest technological advances to produce cheap construction equipment for China's booming construction market. Today, it has a higher domestic market share than its main rival, the U.S. firm Caterpillar, and is also gaining market share in foreign markets.

The same pattern appears in other countries as well. In Chile, government reform and the booming copper industry have received significant acclaim, but market-creating innovations seem to have been the true engine of growth. For example, the blossoming of Chile's agriculture sector was based on market creation—before Chile's innovations, nonconsumption of fresh fruits and vegetables was pervasive during most of the year in nontropical advanced countries. Chile's agricultural exporters leveraged the improving science of cultivation and modern logistics to transform the availability of produce and provide fresh goods all year round.

In India, many health providers are embracing market-creating innovations to make quality health care more accessible. The Aravind Eye Hospital launched with the goal of providing low-cost eye surgery to poor nonconsumers. By introducing innovations such as the high utilization of medical staff and tiered service levels for paying and nonpaying customers, Aravind has become the largest eye hospital in the world. And just as in the Japanese case, Indian firms are using their domestic platforms to target nonconsumers abroad: Narayana Health, for example, is setting up shop in the Cayman Islands to reach cost-conscious Americans, and India has become a leader in health tourism, serving over a million foreigners every year.

And in Brazil, where extensive oil and lumber resources often capture attention, market-creating innovators such as Embraer have been hard at work creating jobs and capabilities. Like most aircraft manufacturers, Embraer was initially supported by government subsidies and focused on producing aircraft for military purposes. But the company trained its sights on the commercial market, delivering low-cost aircraft to domestic airlines. Today, Embraer has acquired a broad set of capabilities, has created extensive domestic supply networks, and makes planes for several dozen leading international airlines, including major U.S. ones, such as American, Delta, JetBlue, and United. And Grupo Multi, another Brazilian market-creating success, targeted the nonconsumption of foreign-language learning by developing a new model to teach Brazilians how to speak English. It now maintains over 2,600 franchised schools, has generated over 20,000 jobs, and has trained over 800,000 students.

THE RIGHT KIND OF INVESTMENT

Such examples suggest the wide range of opportunities available to grow by targeting nonconsumption and creating robust domestic franchises that can then achieve regional or global scale. Looking at things this way also sheds light on what role resources and investments actually play in development. Several ostensibly valuable levers for development—such as investments in natural resource industries, major infrastructure projects, and routine foreign direct investment—have rarely brought the benefits their backers expected. Why not? In part, because such investments don't create markets.

Economists have long wondered why nations endowed with oil (such as Iran, Iraq, Mexico, Nigeria, and Venezuela) or precious metals (such as Mongolia, Peru, and Russia) generate billions upon billions in revenues and profits yet manage to create few jobs and little national economic growth. The answer is that investments in resource industries in developing nations lead to efficiency innovations, designed to produce more with less. From the day these rigs and refineries go into operation, the objective of their managers is to increase productivity by reducing employment. This is the logic of efficiency innovation, and its outcome is net job loss, not gain.

Many infrastructure projects, such as communications towers, power plants, and roads, meanwhile, are also efficiency investments. They reduce the cost of operations for domestic companies, allowing them to better serve their existing customers, but they do not directly lead to the creation of sustained growth and prosperity. In fact, if they cannot be combined with a different set of investments specifically targeting unfulfilled customer needs, their benefits will remain limited to existing customers and their economic impact will be limited as well. This is why infrastructure investments in developing countries, championed by organizations such as the World Bank and the International Monetary Fund, so often fail to drive long-term growth.

Most foreign direct investment, finally, is similarly oriented toward efficiency. The most common type is when a multinational company sets up a low-cost factory to provide components or services for products with an established end use. Often, these investments are "migratory": as soon as the low-cost rationale for the investment in country X has played out, the company moves its factory to lower-cost country Y, if possible. These are investments to get things into and out of the country, not to develop a long-term, stable source of production and jobs.

Some types of foreign direct investment, of course, do bring more substantial benefits to developing nations. One example is when an investment supports a product that is creating a new market abroad. Typically, the market for the end products and services is growing faster than efficiency innovations are decreasing costs. Such an investment puts people to work to build and run the initial factory, and then the company keeps hiring additional employees to keep pace with customer growth. This distinction explains why foreign direct investment did not create fundamental growth in Mexico but did in Taiwan. Most U.S. investments in Mexico funded efficiency innovations embedded within established end-use markets—in industries such as automobiles, appliances, and electric motors. In contrast, most of the companies that have driven Taiwan's economic development—including ASUSTeK Computer, HTC, Hon Hai Precision Industry, MediaTek, and the Taiwan Semiconductor Manufacturing Company—have provided efficiency innovations embedded within market-creating innovations: more efficient components or services used in market-creating innovations such as laptop and tablet computers and smartphones. Because the growth from market-creating innovations is typically greater than the rate of reduction caused by increased efficiency, the broader economy became more prosperous.

HOW TO CREATE SUSTAINED GROWTH

Given that most investments in developing economies have been conceived from the top down and have focused on efficiency, it should come as no surprise that there has been little growth in areas that seemed otherwise to possess such promise. To do better in the future, both the public and the private sector should work to support market-creating innovations—and innovators—in their home markets.

Perhaps the most critical move to boost market-creating innovation would be to put in place platforms and incentives that would accelerate the flow of capital between investors and market-creating innovators. Some of this work simply involves adapting existing tools to the particular challenges of investing in emerging markets. Online investment platforms, such as AngelList and Gust, which directly connect investors to entrepreneurs, have the potential to accelerate many market-creating investments (provided they can be adapted to address the legitimate trust concerns of investors), and both are already going global. So-called crowd-funding networks, such as Kickstarter and Indiegogo, can also be targeted more precisely at market-creating activity, with a particular focus on giving investors from developing countries' ethnic diasporas the chance to invest. And in resource-rich nations, policymakers can play a bridging role by diverting a portion of the revenues from those resources toward funds specifically designated for market-creating investments. Such funds should be managed autonomously, by investors who understand how to spot and support market-creating innovations.

Most entrepreneurs focus on introducing products and services into existing, established markets, but market-creating innovation is built on targeting nonconsumption—unfulfilled needs in new markets. To help entrepreneurs tap the abundant nonconsumption opportunities available in developing nations, adequate training programs must teach entrepreneurs how to see such nonconsumption and estimate the rewards of eradicating it. In coordination with universities and companies, such programs should study how market-creating innovations have taken hold in comparable nations and identify emerging high-potential technologies. Several case studies are already available that can teach entrepreneurs the critical elements of market creation. For example, Godrej & Boyce's chotuKool, a portable refrigerator—a disruptive product bringing affordable cooling capability to the 80 percent of rural Indian consumers without access to reliable refrigeration—shows how creativity and patience can bring life-changing products to segments of the market that had long assumed that such luxuries were beyond their reach.

A long-standing concern of entrepreneurs and investors trying to build businesses in the developing world has been the seemingly unavoidable roadblock of corruption. There is evidence, however, that systemic corruption can be circumvented. Thus, despite India's high degree of corruption at all levels of society, information technology companies in its southern states have prospered because the Internet has essentially become a conduit around the corruption rather than through it. This principle holds promise for other businesses around the world. Rather than spending managerial time applying for or negotiating fees for certificates, licenses, permits, and registrations, executives should work with reform-minded leaders to create ways of getting them easily and virtually, bypassing the multiple opportunities for corruption along the ordinary routes.

For certain system-level constraints, finally, instead of waiting for the system itself to change, entrepreneurs are best served by trying to internalize the problem and control more of the outcome. For example, although traditional capital markets may not be keen on market-creating innovations, the concept of "royalty financing" could help individual businesses. Under this scheme, rather than raising traditional equity or debt, the entrepreneur can license investor capital. The investor receives nothing until revenues are generated, and then the entrepreneur pays a royalty to the investor—a percentage of revenues—just as is common with licenses for intellectual property. As revenues increase, royalties increase, until the accumulated royalties paid have reached some multiple of the initial principal amount. Such an approach precludes the need for a liquidity event, that is, an opportunity to cash out, whose outcome is hard to predict when capital markets are poorly organized and policed. Instead, investors benefit from a liquidity process, which they can monitor and confirm firsthand.

Skilled talent is even scarcer than capital, and here, too, companies can move to internalize the problem. By embracing in-house vocational programs or working more closely with schools and universities, companies can address the problem directly. At the extreme, in South Korea, the steel company POSCO set up its own university to train capable engineers. Observing that "you can import coal and machines, but you cannot import talent," POSCO's founder, Park Tae-joon, led the company to establish the Pohang University of Science and Technology to provide needed education in science and technology. The school consistently tops domestic and international university rankings and has been rated number one by the London-based *Times Higher Education*'s "100 Under 50," a ranking of the top 100 universities under 50 years old.

Armed with a strong causal explanation for what provides sustained growth, and operating in supportive conditions and joined by sympathetic policymakers, entrepreneurs in developing countries can create new markets and new opportunities. The result of doing so will be not just successful businesses but also more broad-based job creation and more robust and lasting prosperity for their countries and fellow citizens.

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OVER THE PAST TEN YEARS AZERBAIJAN HAS BEEN ONE OF THE FASTEST GROWING ECONOMIES IN THE WORLD. Rich hydrocarbon reserves and careful planning have enabled the country to build a healthy and forward-looking economy. Azerbaijan is now preparing to take the next leap. A program for economic diversification and a clear vision for development are shaping the future of Azerbaijan as a globally competitive player, creating abundant opportunities for investment along the way.

Azerbaijan's transformation is particularly impressive considering that twenty years ago it was mired in deep political and economic crisis. Amid post-Soviet uncertainty, the economy was in free fall, with a severe contraction in output and rampant inflation.

The revival of the country's economy followed the introduction of a new oil strategy defined by Azerbaijan's national leader Heydar Aliyev, which encompassed a series of production sharing agreements, and the opening of Azerbaijan's historic oil sector to international investment. A 1994 agreement, hailed as the "contract of the century," gave investors access to Azerbaijan's rich oil fields in the Caspian Sea. The ensuing inflow of capital and expertise permanently altered the country's fortunes. Large-scale production and the construction of multiple pipelines contributed to making Azerbaijan one of the world's largest oil and gas exporters.

Since, Azerbaijan has experienced tremendous growth, which averaged 13.5 percent in the last decade. The country is flush with foreign exchange reserves and about half of Azerbaijan's export oil revenues are collected in a state oil fund (SOFAZ), which finances long-term strategic investments in infrastructure and socioeconomic development.

Azerbaijan's biggest challenge today is diversifying away from hydrocarbons, which represent more than 90 percent of the country's total exports, a 60-percent increase from fifteen years ago. The country expects to capitalize on hydrocarbons for at least another forty years, but oil production is believed to have peaked and Azerbaijan must do more for its non-oil economy. For the government this is a clear priority. "In the last ten years, a portion of the revenues obtained from oil and gas production has been channeled into the development of the non-oil sector, the establishment of new high-tech industrial facilities and diversification of the national economy," President Aliyev recently stated. "As a result, the non-oil sector has been registering an annual growth rate of 10 percent each year."

"Our strategic goal is to further strengthen Azerbaijan's independence and make it one of the most developed and competitive countries in the world."

Ilham Aliyev, President of the Republic of Azerbaijan

Economic diversification is therefore a cornerstone of the country's principal development concept, 'Azerbaijan 2020: A look into the Future', adopted in 2012. It positions Azerbaijan to become a politically developed and economically competitive country by 2020, applying its regional leadership to a global scale. Particular emphasis is placed on the strengthening of non-oil industries, transitioning the country into a knowledge-based economy, and exploiting Azerbaijan's strategic position along international trade routes. For investors, this opens a new chapter of opportunities, particularly in view of further regional integration and rapid progress in the development of Azerbaijan's infrastructure and services. Leaving very little to chance, Azerbaijan appears to be on full course to meeting its 2020 targets.

Baku 2015: Proud Hosts of the First Ever European Games

In June 2015, Azerbaijan will host the very first European Games—a new format of a major multisport event for the entire continent, created at the December 2012 General Assembly of the European Olympic Committees—in its capital city of Baku. No other European nation had exhibited quite the same level of preparedness as Azerbaijan.

This will be a unique opportunity for Azerbaijan to showcase the country and to make 'Baku 2015' the standard for all future European Games. Azad Rahimov, Minister of Youth and Sports and CEO of the Baku 2015 European Games Operations Committee (BEGOC), notes that "it is very important for us to deliver the message to the world that Azerbaijan can achieve international sporting excellence and leave a strong legacy. Azerbaijan will deliver a first-class event that will create positive memories and excellent facilities to inspire not only Azerbaijanis, but also future countries hosting the event."

The Baku 2015 European Games will be the largest multisport event ever to be held in Azerbaijan, even if the country has past experience in organizing large cultural events. A total of twenty sports will be represented at the Games, including sixteen Olympic sports. More than six thousand athletes from forty-nine nations are expected to take part in seventeen days of competition.

The Games are being given full government support. Azerbaijan's First Lady, Mehriban Aliyeva, chairs the organizing committee that manages the event, in cooperation with the Baku City Executive Power and the National Olympic Committee of Azerbaijan. "We now have more than 1,000 people working for the Baku 2015 European Games, and this number will eventually increase to 1,500," says Minister Rahimov. This includes international experts who have been recruited to ensure the highest level of professionalism.

Built to Last

"To facilitate the European Games, Azerbaijan and especially Baku are undergoing huge changes," says Minister Rahimov. "Preparations include the upgrading and modernization of existing sporting infrastructure, as well as the construction of new venues." A total of eighteen venues will be made available for the competition, including five new constructions: the Baku Aquatics Center, the National Gymnastics Arena, the BMX Velopark, the Baku Shooting Center, and the Baku National Stadium.

The long-term legacy of these investments is important for Azerbaijan. "I can honestly claim that we have one of the best legacy models among the big sport events in the world," says Minister Rahimov. "We are not constructing new sport facilities that will become useless after the main event." The National Stadium, for example, is a modern, multi-purpose venue that was planned well before the European Games and will be used as premium football stadium, seating 68,000 spectators. Similarly, other venues are planned to fill gaps in the current infrastructure, such as the new Aquatics Center, which will give Baku citizens free access to first-class swimming facilities.

> "The European Games provide a great opportunity to showcase Azerbaijan as a modern European nation and further establish the country as a prime destination in Europe for sports."
>
> **Azad Rahimov, Minister of Youth and Sports**

Making Sports a Priority

The government's careful approach to sporting infrastructure reflects a broader policy to develop athletic facilities across the country. "We have invested heavily in sports infrastructure," confirms Minister Rahimov. "In the past fourteen years we have constructed forty-one Olympic complexes in various regions of the country. This offers great opportunities especially for young people, taking into account that 66 percent of Azerbaijan's population is under thirty-five years of age." World-class sporting events such as the European Games give impetus to providing the Azerbaijani youth with top-standard sports venues. This creates perfect ground for Azerbaijan's next generation of athletes and strengthens the country's credentials as a sporting nation.

Neither does Azerbaijan's program end with the European Games. In 2017, Azerbaijan will host the Islamic Solidarity Games, drawing athletes from fifty-seven countries. And for 2020, Baku was selected to host games of the UEFA Euro Football Championships, with one quarter-final and three group stage matches to be played at the new National Stadium.

Azerbaijan's Place in the World

Azerbaijan's strong economic development, political stability, and commitment to dialogue and cooperation are dramatically changing the country's international standing. Regionally, on the back of its economic power, it has become a key driver for further integration. Azerbaijan accounts for roughly 80 percent of gross domestic product (GDP) of the entire South Caucasus and attracts more foreign direct investment than any other country in the region. "Azerbaijan's geographical location and economic potential require us to be an active player in the regional integration process," says Elmar Mammadyarov, Minister of Foreign Affairs. "Occupying a crossroad between East and West, we have a long-standing tradition of building bridges between people and societies."

In the wake of developing its hydrocarbon sector, Azerbaijan has established close links and economic ties with neighboring states and other countries in the region. It participates in numerous regional organizations and encourages closer cooperation. "Azerbaijan has been behind a number of regional projects, especially in the field of energy, transport and information communication technologies," explains Mammadyarov. "Construction of the Baku-Tbilisi-Jeyhan oil pipeline paved the way for the completion and successful launch of the Baku-Tbilisi-Erzurum gas pipeline, as well as the Baku-Tbilisi-Kars railroad project and the Trans-Eurasian Information Super Highway."

What holds true regionally also applies internationally. Azerbaijan is proving a reliable and committed partner, strengthening bilateral relations, and participating in international organizations such as the Organization for Security and Co-operation in Europe (OSCE), the Council of Europe, the Non-Aligned Movement, and the Organization of Islamic Cooperation (OIC). In 2011, Azerbaijan was elected a non-permanent member of the United Nations Security Council, reflecting its international credibility.

While Azerbaijan continues to deepen relations with key partners, it also seeks closer political and economic cooperation with countries in Southeast Asia, Latin America, and Africa, where the Azerbaijan International Development Agency of the Ministry of Foreign Affairs also implements humanitarian projects. Azerbaijan thus strengthens its international clout. In the words of Mammadyarov, "Azerbaijan's development in recent years across all areas and its growing influence at the global level speak for themselves."

A Home for Major Investments

Azerbaijan's strong economic growth in the last two decades would have been impossible without foreign investment. The country's economic success is attributable to an open-door policy that invites investors to participate in the development of key sectors, including the lucrative hydrocarbon sector. This attitude prevails and has made Azerbaijan a preferred destination for foreign direct investment. "Political and economic stability, protection of investor's rights, favorable geographical location, abundant natural resources and a highly skilled workforce have made Azerbaijan one of the most

attractive countries in the region for foreign investments," says Elmar Mammadyarov, Minister of Foreign Affairs.

Between 1996 and 2013, the country attracted more than $100 billion in foreign investment. In 2013 alone, investments amounted to $10.5 billion. Traditionally, investment was directed at the oil and gas sectors, which continue to create significant opportunities. But Azerbaijan's economy is diversifying. As Sahil Babayev, Deputy Minister of Economy and Industry, confirms, "diversification of non-oil sectors is our primary goal and we have already achieved results. Compared to 2007, when 60 percent of GDP was generated by the oil sector, this has now been reduced to 43 percent."

Opportunities exist in a variety of sectors, including in particular agriculture, alternative energy, food processing and packaging, industrial production, information technology and telecommunications, logistics and transportation, and tourism.

A string of reforms has contributed to raising Azerbaijan's attractiveness. The social, economic, and legal conditions of investment are clearly defined, the business registry system has been greatly simplified, and mechanisms are in place to protect the rights of investors. Azerbaijan offers a very liberal environment for investment and a range of special incentives.

Regionally, Azerbaijan creates additional opportunities through integration, as Mammadyarov explains. "There is a strong will and financial commitment from the our side to implement economic projects of regional importance, especially in the fields of energy, ICT and transport, connecting continents, regions and countries by pipelines, rail and roads, and promoting economic development of our region."

Tomorrow's Infrastructure

Azerbaijan's strategic location makes it an ideal hub and transit route for intercontinental trade and transportation. The country has invested heavily in building and expanding its road, rail, air and sea infrastructure. In the last decade, Azerbaijan has built four international airports and added more than five thousand miles to its road network. And this was only the beginning. Apart from ongoing work at Baku international airport for a new terminal with an annual capacity of three million passengers, one of Azerbaijan's biggest projects is the Baku-Tbilisi-Kars railway. Also known as the 'Iron Silk Road', the project will connect the railway systems of Azerbaijan, Georgia, and Turkey with those of Europe and Asia.

"The Baku-Tbilisi-Kars railway project will be one of the most efficient transport corridors in terms of distance, speed and tariffs. It will not only contribute to internal cargo shipping, but also benefit Azerbaijan's role in transit cargo shipping," says Ziya Mammadov, Minister of Transport. Another major development under way is the construction of a new port facility. "The new Baku International Sea Trade Port will become the biggest seaport in the Caspian region and should be considered as a continuity of the Baku-Tbilisi-Kars railway project," says Mammadov. Eventually, the new port will have an annual capacity of twenty-five million tons of cargo or one million containers. The eagerly awaited project is expected to be completed by 2017 and will further enhance Azerbaijan's regional importance.

Hydrocarbons Continue Powering Growth

Azerbaijan has played an important role in the history of oil production. It was the site of the first oil field, drilled in 1846, and of the first offshore oil field. More than 150 years later, Azerbaijan still stands among the world's great oil- and gas- producing nations. Without the revenues from oil and gas production, Azerbaijan's recent and phenomenal growth over the past two decades would have been unthinkable.

"More than one hundred billion dollars in revenues have been received since the establishment of SOFAZ in 1999," says Shahmar Movsumov, President of the State Oil Fund of Azerbaijan (SOFAZ), which is responsible for collecting and managing oil and gas revenues. "Roughly 40 percent of these revenues have been saved and 60 percent have been invested into the economy of Azerbaijan."

Large-scale oil production took off with the development of Azerbaijan's most prolific oil field, the Azeri-Chirag-Guneshli (ACG) field, located offshore in the Caspian Sea. The field became operational in 1997 and is managed by an international consortium headed by British Petroleum (BP), under a landmark production sharing agreement. Production at the field peaked in 2010, but it still accounts for about 80 percent of the country's total output, even as new oil fields are coming on stream.

Most oil is exported via the Baku-Tbilisi-Ceyhan (BTC) pipeline, which runs through Azerbaijan, Georgia, and Turkey and provides a crucial link to global markets. It has allowed Azerbaijan to massively increase production, reaching one million barrels per day (bbl/d) at its peak in 2010.

Now gas is quickly becoming a second major source of revenue for Azerbaijan. In 2006, production started on the offshore Shah Deniz field, one of the largest gas and condensate fields in the world. Almost overnight, this has turned Azerbaijan into a net gas exporter and a major energy partner for Europe. For Natiq Abbasov, Deputy Minister of Energy, this might yet reveal itself as "the contract of the twenty-first century."

SOCAR Rises to International Status

Rovnag Abdullayev, President of the State Oil Company of the Republic of Azerbaijan (SOCAR), is duly enthusiastic about the prospects of gas. "In the bright oil and gas history of Azerbaijan, the Shah Deniz field development is ushering in a new era." The state-owned SOCAR holds a major stake in the exploration and production of oil and natural gas in Azerbaijan. It produces approximately 20 percent of the country's total output and is part of the BP-led Azerbaijan International Operating Company (AIOC), which operates the ACG and Shah Deniz fields. SOCAR also manages the country's oil and natural gas imports and exports.

Developing the Shah Deniz field solidifies SOCAR's role as an important energy provider to European markets. The Shah Deniz field currently has a capacity of 315 billion cubic feet (bcf), but after the second development stage will have an additional peak capacity of 565 bcf, making it one of the world's largest gas development projects. Preparations are well under way, as Abdullayev confirms. "Master agreements for design, construction and supply works have been signed. Initial, and in some production areas even main works, have started," he says, adding that "the Shah Deniz field is planned to deliver initial volumes of gas to Turkey by 2018."

SOCAR strategically decided to grow supply to European rather than regional markets, which requires a significant upgrade and expansion of infrastructure; the consortium managing the Shah Deniz field agreed to make a total investment of $45 billion to support this shift. Money will be spent on expanding the field and constructing pipelines across Turkey and into Greece, Albania, and Italy. "This is a giant project and will establish a pipeline system of 3,500 km in length, stretching from Azerbaijan to Europe," explains Abdullayev. "It will involve cutting-edge underwater production technologies at the Caspian Sea, expansion of the current Southern Caucasus Gas Pipeline, and construction of the Trans Anatolian Natural Gas Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP)."

The project, also known as the Southern Gas Corridor (SGC), will be the first in decades to introduce new gas supplies to Europe, amid European Union efforts to diversify European gas supplies. "The initial expectation of gas production for Shah Deniz Stage II is sixteen billion cubic meters annually (bcma)," explains Deputy Minister Abbasov. "Ten bcma of this gas will be delivered to Italy, Greece, and Bulgaria, and the remaining six bcma will be delivered to Turkey. Agreements have been signed for the next twenty-five years."

And this may only be the beginning. Azerbaijan expects a steep rise in gas exports, including from other domestic resources. "We hope to be able to produce gas from the Absheron gas field by 2020-2021," says Abbasov. "The initial figure of sixteen bcma is thus set to rise. Our target is to produce fifty-five bcma by 2025 and to export between thirty-five and forty bcma of this gas."

For SOCAR, gas-sector development is another stepping stone toward becoming an international and vertically integrated energy company. Recent acquisition of a controlling share of the Greek natural gas transmission network operator (DESFA) exemplifies SOCAR's wider strategic orientation. The move is expected to pave the way for other SOCAR activities in the European market.

SOCAR has business activities stretching from Europe to the United Arab Emirates and Singapore. It maintains fuel retail networks in Georgia, Ukraine, Romania, and Switzerland, and became a major player in the Turkish petrochemicals sector when it acquired a controlling share in Turkey's sole petrochemicals manufacturer, Petkim, in 2008. Plans to grow Petkim's Turkish-market share from 30 percent to over 40 percent will see a heavy investment from SOCAR. This includes construction of petrochemical plant facilities, an energy plant, a container port, and a $5.5 billion refinery on Turkey's Aegean coast.

SOCAR no longer feels confined by Azerbaijan's borders. As Abdullayev states: "We are keen to expand our presence in international markets. In the coming years, we intend to focus more on overseas exploration and production and the expansion of foreign investment projects."

Meeting the Challenge

Azerbaijan's second largest natural gas field, the offshore Umid field, is a joint development by SOCAR and Nobel Oil, a private company. Nobel Oil's exploration and production arm holds a 20 percent share in the project and has been involved in the field's development, despite being a young entry to the market. "Nobel Oil was established in 2005 in the spirit of the business model applied by the Nobel brothers who created one of the most successful companies in the history of the oil industry," says Michael Wring, CEO of Nobel Oil Services. "We soon grew into an active technical service provider, offering a wide range of services, including work over, drilling, installation, construction, engineering and maintenance, repair and operations services to the oil and gas industry." At the same time, involvement in the Umid project allows the company to grow its upstream expertise and to stay ahead of the game.

Competition is steep and requires companies to continuously adapt to new challenges. "We can't afford complacency or continue riding on our previous successes. We have an active organic and inorganic business development strategy and want to create partnerships by setting up joint ventures with local and foreign providers of technology and services," Wring notes. "Our competitive advantage is our intimate knowledge of the local market and business realities, including our relationships with potential customers and service providers. We understand how to get results in a saturated challenging market." Nobel Oil plans to continue diversifying in energy-related industries and grow its international business. "In May 2014 we started a trading business of crude, gas and refined fuels. We also established Nobel Oil Downstream which entered the retail stations market in Europe. Currently we are in the process of acquiring local fabrication capability to support our construction business and maintenance businesses," adds Wring.

New Focus on Renewable Energies

Despite the dominance of oil and gas in Azerbaijan's energy sector, the country is no stranger to renewable energies. Azerbaijan's geographical location offers unique opportunities for a range of alternative energy sources, including solar, wind, and geothermal. The potential for solar energy alone is estimated at ten thousand megawatt (MW), attributable to long hours of sunshine and clean air. And along the coastal waters of Azerbaijan, wind power is estimated to offer potential for another ten thousand MW.

Azerbaijan established a dedicated State Agency on Alternative and Renewable Energy Sources (SAARES) in 2009 to develop its renewable energy sources. The agency is responsible for formulating the policy framework and developing a centralized approach to a country-wide and rapid uptake of renewable energies. "We want to avoid the problems that European and other countries have encountered," explains Akim Badalov, Chairman of SAARES. "Just like a newborn baby is given the care of its parents, we provide state support to this newly established sector, to then set it free." Following research, international consultations, and trial projects, SAARES has developed a national strategy that presents a detailed roadmap towards achieving a significant increase in the share of alternative energy sources in Azerbaijan's energy consumption.

"The strategy sets renewable energy targets by 2020, with accurate megawatt figures for solar, biomass, wind power, etcetera," says Badalov. "No other country plans with such accuracy. To the last village we know the capacity of each of the stations we will build." Once approved by the presidential office and by parliament, roll-out will be supported by Azalernativenerji Ltd. The organization will be responsible for the economic matters of renewable energy production, including distribution, sales, and management of infrastructure. Azerbaijan's own brand of hybrid power stations, combining wind, solar, and geothermal energy and power generated from biomass, will equally be run by Azalernativenerji LLC, under the State Agency on Alternative and Renewable Energy Sources.

If implemented as planned, the strategy would achieve a drastic change in the country's energy mix. "By 2020, we will be able to achieve around four thousand MW of power generation, providing almost 50 percent of the total energy generated in the country," says Badalov. "But considering our potential, we could even achieve six thousand MW." He is confident that the sector's growth will be limited only by Azerbaijan's actual energy needs.

Private Investment Shapes the Non-Oil Sector

The opportunities in Azerbaijan's non-oil economy are most apparent in the portfolios of private investors. Synergy Group, one of the largest private investment holdings in Azerbaijan, has invested in the non-oil sector since its establishment in 2010. Its portfolio includes industries ranging from construction and construction materials to hospitality management, information and communication technologies, and agriculture. "We are proud to say that the group already includes dozens of separate businesses, now employing more than 1,500 people," says Dayanat Guliyev, Chairman of the Supervisory Board. Many of the company's investments are made in the regions outside of Baku—a deliberate choice, as Guliyev explains. "The social and economic development of the regions is a main drive behind our activities."

Otherwise, Synergy's investments are as diverse as Azerbaijan's economy. One of Synergy's interests, Caspian Coast Winery & Vineyards, produces high quality wines and cognac for export, while Azagro is a business growing fresh cut roses in modern greenhouses. Synergy Group also owns Azerbaijan University, one of the country's first private universities.

Synergy's largest investments, however, are in the construction and hospitality sector. "The construction sector represents an essential part of the Group's operations," says Guliyev. "Most of our larger projects are concentrated in this field." Synergy operates AAC LLC, a highly modern production facility for aerated concrete products used in the country's major construction projects. The facility is being upgraded for a two-fold rise in production capacity to meet growing demand from the local industry. And this is just one of many projects. "We have launched construction of a fibro-cement plant that will produce ecofriendly roof and facade coverings," says Fakhriyar Jabbarov, Vice-Chairman of the Supervisory Board. "And we are preparing to open a plant based in Shamkir, the Zayam Technologies Park, specializing in the production of metal structures used in the construction of factories, buildings and bridges."

In 2010, Synergy Group established a partnership with leading regional contractor Renaissance Construction, in a bid to becoming Azerbaijan's leading construction contractor.

Synergy Group proves as true the tenets of Azerbaijan's 2020 agenda that significant growth and development is possible in all sectors. "We will continue to contribute to the development of our country in every field," says Guliyev. "We are honored to be one of the main actors in growing the attractiveness of Azerbaijan's economy for international investors."

A Quantum Leap in Public Service Provision

Azerbaijan is undergoing rapid socioeconomic changes, heralded by wide-ranging reforms, including the modernization of its public services. The ASAN-Service of the State Agency for Public Service and Social Innovations, which represents a quantum leap in the way public services are delivered, with equal access guaranteed to all citizens, is central to the country's transformation.

Since its establishment in 2012 as part of President Aliyev's modernization initiative, ASAN-Service has become a byword in efficiency and transparency. ASAN has significantly increased public confidence in state bodies and triggered a radical change in public perception of state administration.

In a successful public-private partnership (PPP), ASAN service centers combine in a single administrative building state entities and private companies. Together they render over 200 services to more than 2,500 people per day. Available state services include the issuance of IDs and passports, residence and work permits, notarized documents, renewal of driving licenses and the payment of fines. Private companies offer banking, insurance, utilities, translation and medical services.

ASAN is also paving the way for e-government in Azerbaijan through the use of modern information technologies and service-specific software developed by Azerbaijani specialists.

Convenient and Transparent

Introduction of a mobile ASAN service is the latest innovation in public service delivery. Well-equipped large buses offer services to residents in remote areas and regions that do not host ASAN centers. Intra-city mobile services are provided free of charge to people with disabilities and children under medical care. If citizens are unable to come to the centers, they can call and request that services be rendered at their current location—home, work, or elsewhere. This mobile operation facility will soon be offering the full range of services currently available at ASAN centers.

ASAN has proved a highly effective tool in fighting red-tape and corruption by eliminating the circumstances that allow it to flourish, such as the lack of transparency and responsibility. According to Inam Karimov, Chairman of the State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan, "ASAN has installed such a system where corruption is practically impossible. You cannot have any corruption in an ASAN Service Center with the ASAN model type. Therefore, the main target for us today is raising the level of efficiency of the services and to be always a step ahead of the public expectations placed on ASAN."

The Customer is Always Right

Customer satisfaction is paramount in ASAN, acting as a barometer of the center's success. Exit poll machines are available to garner feedback, and video-call machines enable people to voice their complaints or suggestions by contacting a dedicated call center free of charge.

ASAN uses social networks to ensure public participation and raise citizen awareness about its work. Already, ASAN's Facebook page has more than 250,000 followers.

Ethical behavior and politeness underpin ASAN's success. Staff receive regular intensive training that includes customer service, corporate ethics, and time and stress management skills. The result is a customer satisfaction rate of 98 percent among more than 3 million served so far.

ASAN's role as an advanced model for the delivery of public services is now widely recognized. Kamran Agasi, Director of the Innovations Center, notes that ASAN's structure "can serve as a best practice for countries that would like to take their public service delivery to a qualitatively new level. We have proved that in a short period of time it is possible to transform public service delivery." This sentiment has been echoed by the World Bank's Executive Director Jorg Frieden, who stated that "the application of ASAN service experience in other countries would be very beneficial."

A model of excellence in public-sector innovation, ASAN has become synonymous with Azerbaijan's lasting achievements and the social and economic progress underway.

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Azerbaijan's Technological Edge

Information and communication technologies (ICT) play a crucial role in Azerbaijan's efforts to diversify its economy. Apart from a very real growth potential, ICT enables development of other industry sectors. "The ICT sector in Azerbaijan has been on the cutting edge of economic innovation," explains Ali Abbasov, Minister of Communications and Information Technologies. "These innovations have spread across nearly every other industry, increasing efficiency and driving change in the way they operate, and the goods and services they produce."

With annual growth rates between 20–25 percent, ICT has become the fastest growing sector in Azerbaijan. It is now the second largest recipient of foreign investment, after the oil industry, attracting due attention. "The presence of US companies such as Microsoft, HP, IBM and Oracle has contributed immensely to the development of the ICT sector in Azerbaijan," says Abbasov. $3 billion have been invested in the sector in the last decade, with upward tendency.

Azerbaijan has made significant technological advances. In 2013, the country launched its first telecommunications satellite, delivering services to customers internationally. Azerbaijan was also the first country in the region to digitalize its fixed telephone network, linking all residences with telephone lines and connecting regional centers to the backbone fiber-optic network. It is now committed to building a transcontinental super information highway between Frankfurt and Hong Kong.

Growing Mobile Phone Market

Citizens in Azerbaijan are among the most connected in the region. Seventy-three percent of the population uses the Internet and 55 percent has a registered broadband connection. Mobile phones are ubiquitous, with a penetration rate of 110 percent. Three major mobile phone operators are competing in a market that grew by 25 percent last year. Baku-based Azerfon, operating under its brand name Nar Mobile, has been the fastest growing company in the market, attracting more than two million subscribers since 2007.

"We are the smallest of the three operators, and the newest one, and we currently have a market share of about 20 percent" says Kent McNeley, Chief Executive Officer of Azerfon. "We have been innovative in a number of different ways. We were the first to bring third-generation (3G) mobile technology to Azerbaijan. And we are now the first to allow the use of handsets during flight, cooperating with Azerbaijan Airlines for flights to and from Azerbaijan." Nar Mobile also distinguishes itself by focusing on customer care and the quality and reach of its network. For McNeley, the future course is clear. "We will continue broaden the coverage of our network, build the capacity, build the quality of our system, strengthen indoor coverage; all those things that make our product better."

Nar Mobile will be able to put its credentials to the test during the 2015 European Games. As an official telecommunications sponsor, it will provide the communications network for the event. "We have been working with the Games Committee for several months now," says McNeley, "looking at all aspects of how to best meet the needs of people directly involved in the games and of visitors." This presents a unique opportunity to grow recognition and expertise.

Tourism Discovers Azerbaijan

Azerbaijan's rich historic and cultural heritage and unique natural beauty, which covers nine climatic zones, make the country an ideal destination for international tourism. "We are currently engaged in rethinking strategies for the diversification of areas of tourism and services, adopting new standards and norms, revising marketing and market penetration strategies, and establishing new mechanisms for cooperation between the public and private sectors," says Abulfas Garayev, Minister of Culture and Tourism, describing efforts underway to shape the sector's development.

Visitors increasingly recognize Azerbaijan's appeal, beyond being a business destination. The number of visitors continues to rise. 2.5 million tourists visited the country in 2013, while income from international tourism increased from around $200 million in 2007 to approximately $1.5 billion in 2013.

Travelers to Azerbaijan find services of the highest standards. The world's top hotel chains, including the Four Seasons, Marriott, Kempinski, Hilton, Fairmont and Jumeirah, have long established their presence among a growing number of hotels.

Currently, 40 percent of tourists come to Azerbaijan from other countries in the region, particularly the countries of the Commonwealth of Independent States (CIS). Azerbaijan expects to attract more tourists from outside the region by investing in new types of events and tourism facilities. The upcoming 2015 European Games are part of this approach. "For Azerbaijan's tourism industry this event is a long-term investment in the country's image as an emerging tourist destination capable of catering to different tastes and expectations to highest international standards," explains Garayev.

Meanwhile, one of the country's largest development projects in the sector opened in 2012. The new Shahdag Tourism Complex is situated in the Shahdag National Park in the northeastern part of Azerbaijan and includes a choice of hotels and sporting facilities, including one of Europe's largest ski resorts. Azerbaijan is open for business, but also for year-round holiday-making.

Thinkers and Tinkerers

The Innovators Behind the Information Age

James Surowiecki

The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution
BY WALTER ISAACSON. Simon & Schuster, 2014, 560 pp. $35.00.

Zero to One: Notes on Startups, or How to Build the Future
BY PETER THIEL WITH BLAKE MASTERS. Crown Business, 2014, 224 pp. $27.00.

In the grand scope of human history, technological progress is actually a surprisingly new phenomenon. While there had always been the occasional new invention or technological breakthrough, it wasn't until the Industrial Revolution that sustained technological progress became a reality—and, with it, the possibility of steadily rising living standards. For most of the past two centuries, that progress was most visible in the industrial and agricultural realms. But over the past 60 years or so, the lion's share of innovation has come from a single sector: what is now loosely called "information technology." When thinking about innovation in the United States today, the first (and sometimes only) place that comes to mind is Silicon Valley. In the simplest sense, Walter Isaacson's *The Innovators* explains how that happened and, in the process, sheds some interesting light on what drives innovation more generally.

The Innovators doesn't begin in the Valley, though. It doesn't even begin in the United States, or in the twentieth century. Instead, Isaacson starts with the story of the visionary British mathematicians Ada Lovelace and Charles Babbage, who, in the 1830s and 1840s, rather miraculously came up with the basic idea for a general-purpose computer much like those of today. From there, Isaacson leaps ahead a century to the years just before World War II, when a series of conceptual breakthroughs led to the construction of what might be considered the first proto-computers. Isaacson's book, as its title suggests, then becomes a kind of serial biography, as he offers up portrait after portrait of the men and women who turned the computer from a theoretical idea into a daily reality. This approach has its limitations: there are times when it feels as if the reader is hearing at once too much and yet not enough about the characters. But what keeps the book from feeling like a series of potted sketches is that Isaacson is adept at situating his characters in both time and place. He lays out the institutional and organizational contexts in which they functioned, as well as the broader social trends they were influenced by and in turn shaped. The result is a book that offers a remarkably vivid picture of people genuinely making history, even if they did so not entirely on their own terms.

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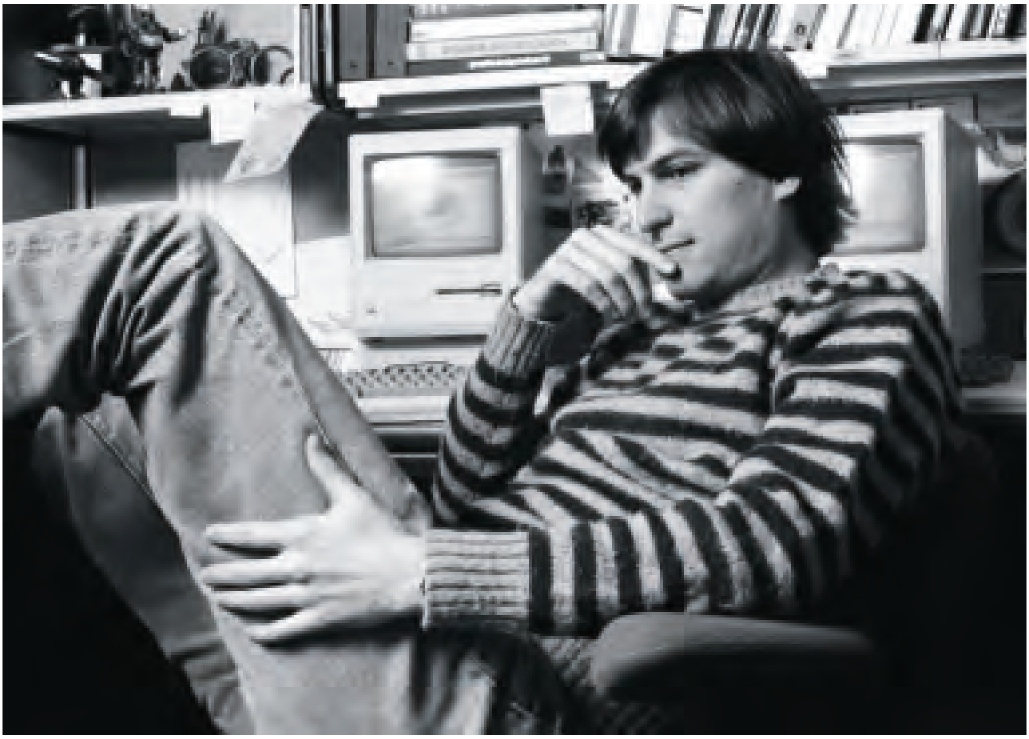
O PIONEERS!

In a schematic sense, the story Isaacson tells can be loosely divided into three periods. The early years culminate in the 1946 debut of ENIAC (the Electronic Numerical Integrator and Computer), which Isaacson considers to be the first true computer, meaning that it was all electronic, was programmable, and "could in theory tackle any task," rather than being designed for a single goal. Those early years were dominated by the demands of the U.S. military (ENIAC was originally designed to calculate the trajectory of artillery shells), and the work took place largely in university laboratories and military facilities.

The two and half decades that followed saw private corporations become central to the development of the computer, first at Bell Labs (where the transistor was invented) and soon after in Silicon Valley. Government, however, was still an integral part of the process, since federal research funding was immense—together, the U.S. Defense Department and the National Science Foundation spent as much on basic research as private companies did between the 1950s and the 1980s—and since the military was a crucial customer for the technology industry in its early days, most notably in the case of microchips. Indeed, the real driver of technological change during this era was what Isaacson calls "the military-industrial-academic complex," which eventually led to the creation of the Internet in the 1970s.

What the advent of the Internet signaled, particularly in combination with the birth of the personal computer, was the mainstreaming of the idea that, as Isaacson puts it, "computers should be personal and interactive." This has been the central theme of the last three decades or so in computing: the personalization of technology and the transformation of computers from expensive, hard-to-use machines into accessible, affordable household devices that put immense computing power in the hands of individuals. And although corporations have obviously been integral to this process, the last 20 years have also seen the emergence of important, and surprising, new ways of producing software and organizing work—think of open-source software or Wikipedia.

That last point is important, because, as Isaacson makes clear, advances in the digital revolution have taken myriad forms. The easiest innovations to see are the devices that people built—ENIAC, the semiconductor, the microprocessor, the personal computer, the Internet—and the software they wrote: graphical user interfaces, operating systems, word-processing programs, and so on. But there were also important innovations in finance, such as the rise of venture capital (about which Isaacson could have said more). There were important organizational innovations, too, such as the corporate research laboratories at Bell Labs and Xerox PARC, both of which invested heavily in basic research as well as product development and became extraordinary founts of technological breakthroughs (even if the companies that owned those labs didn't always take advantage of them). And there were innovations in management, such as the nonhierarchical structure that Robert Noyce, Gordon Moore, and Andrew Grove pioneered at Intel. Then there's what Isaacson calls "the advance that is closest to being



Staying hungry: Steve Jobs in Cupertino, California, January 1984

NORMAN SEEFF

revolutionary" in recent years—namely, the way the Internet has "facilitated collaboration not only within teams but also among crowds of people who didn't know each other."

Those who have read deeply in the history of technology will find much of this material familiar. But Isaacson has a great way with the telling detail, and he does an excellent job of showcasing the work of innovators such as Douglas Engelbart (who in the 1960s essentially invented a computer that had nearly all the features users take for granted today) and J. C. R. Licklider (who worked at the Defense Department and in some sense shepherded the Internet into existence), people who had a profound impact on modern life but whom most have never heard of. And while at heart, Isaacson is telling a story, he's also trying to use history to investigate how innovation works.

HOW TO SUCCEED IN BUSINESS

This is trickier than one might think. The temptation is to simply look at successful innovators and at failed ones and identify what the former did well and what the latter did poorly. The problem is that the reasons for failure (or for success, for that matter) are not always obvious, and the sample size of truly successful innovators is not that large. As Isaacson writes, "Sometimes the difference between geniuses and jerks hinges on whether their ideas turn out to be right." That should make one at least a little cautious about believing that it is possible to reliably distinguish the distinctive characteristics of geniuses and jerks.

Still, some common themes do emerge from the history of the digital revolution. Probably the most important is not to rely solely on geniuses in the first place. That may sound odd, since the story of invention is usually told as a story of great inventors. But as Isaacson reveals, the true engine of innovation is collaboration. The pairing of a creative visionary and a more practical engineer (such as John Mauchly and J. Presper Eckert, who created ENIAC, or Steve Jobs and Steve Wozniak at Apple) can be enormously productive. And it isn't just strong pairs, either; the organizations that have done best at innovating have typically been those that have relied on strong teams made up of diverse thinkers from lots of different disciplines. These teams didn't try to quash independent thinking; they welcomed it. As Isaacson puts it, "Rugged individualism and the desire to form associations were totally compatible, even complementary, especially when it involved creating things collaboratively."

One of the reasons diverse teams have tended to be more successful is that they have done a better job of turning ideas into actual products. This is an important theme in Isaacson's book: genuine innovations are not just about brilliant insights. They're the result of taking those insights and turning them into things that people will actually use and then finding a way to get those products into people's hands. One of the more interesting sections of *The Innovators* is Isaacson's account of John Atanasoff's quixotic quest to build a general-purpose computer by himself in the early 1940s. Atanasoff anticipated important aspects of what would become ENIAC and constructed a prototype. But because he worked alone, in Iowa, rather than in a lab with other scientists and engineers, his computer never became fully functional, and he became a footnote to history, eclipsed by Mauchly and Eckert. Isaacson takes Atanasoff's efforts seriously, but he notes that "we shouldn't in fact romanticize such loners." Real innovation isn't just about an invention. As Eckert put it, "You have to have a whole system that works." And that's hard to do when you're all by yourself.

In the same vein, Isaacson's book points to the virtues of public financing of basic research, so that what might be called "the knowledge commons" is constantly being replenished and reinvigorated. Although patent rights and intellectual property law are obviously at the core of the way much of the technology industry works today, the history of the last 60 years is, in large part, a history of people building freely on the ideas of others to come up with something new.

Of course, even having all these things can't guarantee an innovation boom. There are times when Isaacson's take feels a bit reductionist, as when he concludes that the way the United States has driven innovation historically—relying on government-funded work, the corporate pursuit of profits, and collaborative, open-source labor all at once—is necessarily the best model for how to propel innovation everywhere. But we don't actually know that. What we do know is that taking this multipronged approach to innovation has worked well. Whether a different approach might have worked better will remain a mystery.

THE VISION THING

Different as Isaacson's innovators were, they all had one important thing in common: the faith that dramatic change was possible, and that computers and networks could truly transform the way people lived. That kind of ambition is precisely what Peter Thiel, a co-founder of PayPal who is now a well-known venture capitalist and gadfly in Silicon Valley, believes is missing from today's entrepreneurs. That may sound peculiar, given that nary a day goes by without news of some new start-up raising a big chunk of venture capital. But in his new book, *Zero to One*, which was born out of a class he taught at Stanford University for budding entrepreneurs, Thiel argues that today, too many start-ups have embraced an overly cautious view of what's possible. Instead of trying to reinvent the wheel, they are trying to make existing wheels go a tiny bit faster, doing things such as producing yet another social networking app rather than trying to solve genuinely complicated and important problems. What the world needs, Thiel thinks, are more people like Elon Musk, who started Tesla Motors and SpaceX. What it's getting instead are a lot of start-ups that are doing what everyone else is doing and just hoping to do it a little better.

Thiel thinks that this is a bad strategy for starting a business. The enemy of any business, he argues, is competition, and if a start-up is doing what other companies are already doing, it has guaranteed itself competition. What the founders of companies should really want is a monopoly, and the best way to get that is to build something that others aren't (for example, in Musk's case, a stylish and reasonably affordable electric car). Thiel's language here is attention-grabbing (aren't monopolies bad things?), but he's clearly onto something important: what businesses want to avoid is commoditization, where there is no real distinction between their product and those of their competitors. There is money to be made even in a competitive market, but it's always difficult, and the profit margins are nearly always slim. Monopolies, by contrast, are lucrative. In Thiel's mind, that is a good thing, since it is the prospect of earning a monopoly, and the profits that come with it, that encourages people to come up with profound innovations.

Of course, coming up with those isn't exactly easy. And although Thiel's book has plenty of interesting and concrete advice for entrepreneurs—Thiel suggests starting off by aiming to dominate a small market rather than trying to take a small slice out of a big market, and he stresses, as Isaacson does, the importance of sales and presentation in making even great products successful—he's also clear that the vast majority of the economic value that start-ups create is created by a minuscule fraction of the start-ups out there. One could say that this means the chances of success are very small, but Thiel, a libertarian, frames it in different terms. The real question an entrepreneur has to be able to answer, he argues, is, What do you know that the rest of the world doesn't? If you have a good answer to that question, you should try to turn your idea into reality.

Much of *Zero to One* is about what it takes, on an organizational and cultural level, for a start-up (even one with a great idea) to succeed. But Thiel's real concern isn't so much with individual businesses. Instead, Thiel is writing against what he perceives as a narrowed sense of ambition and a lack of imagination in the business world more generally, and indeed in society as a whole—and it's this that makes his book an interesting complement to Isaacson's. *The Innovators* is deeply optimistic about technological progress and American innovation. Thiel, by contrast, believes that the United States (and the world, for that matter) has been stuck for the past 40 years in a state of what he calls "horizontal progress." People are getting better at copying what already works. But with few exceptions—most of them in information technology—they are not making the kinds of great leaps (or what he calls "vertical progress") that have taken place in the past. One might ask, "But what about globalization, which has improved living standards for billions of people?" For Thiel, globalization is a quintessentially horizontal improvement: it's about developing countries imitating the successes of others. Although that has certainly made people in developing countries better off than before, Thiel argues that it hasn't actually make the world significantly richer as a whole.

Thiel's gloomy take on innovation today is surprisingly common, what with worries about "secular stagnation" in the economy and the possibility that the world now faces permanently slower growth. And for all the talk about the rapid pace of change these days, it would be hard to argue that things have changed more in the last 50 years than they did in the previous 50. The years between 1915 and 1965 saw the birth of radio, television, jet airplanes, penicillin, air conditioning, the interstate highway system, the microchip, the semiconductor, and so on. The record of the last five decades isn't anywhere near as dramatic.

GETTING THERE

At the same time, Thiel's implicit downplaying of the advances since the 1970s—including the Internet, the personal computer, and the smartphone—understates the enormous benefits they have brought, not just to the way people entertain and educate themselves but also to the way they collaborate and connect. Isaacson, for his part, offers up a wonderful paean to how the Internet allows collective intelligence and collective effort to emerge on a grand scale, in a way that was never possible before. But Thiel has little patience or, it seems, interest in this. Thiel has described himself as an outsider. So perhaps it's not surprising that these extraordinary social networking technologies appear relatively trivial to him. But it is hard to argue that tools that people use so frequently and seem to enjoy so much are not actually important. In interviews, Thiel has pointed to the small number of people employed by Twitter as evidence that the company isn't transformative. But whatever one thinks of Twitter, a head count is an odd way to determine its social value. That depends instead on how much value it creates for its users.

What is peculiar is that Thiel sort of knows this: he was an early investor in Facebook, and in *Zero to One*, he cites Google, the iPod, the iPad, and Uber as genuine innovations. Yet at some level, he is clearly dissatisfied with these inventions. They may have remade people's daily lives. But Thiel is looking for something bigger—something like the Apollo program, perhaps. (Although Thiel is a libertarian, he expresses admiration for the government's role in orchestrating both the space program and the Manhattan Project. He's just disappointed that the government's ambitions, too, have been scaled back in recent years.) Of course, it's far from obvious that the Apollo program had all that big an impact on the lives of ordinary Americans. But it is the scale of it that Thiel admires.

For all these flaws, it would be a mistake to dismiss Thiel's critique of today's narrowed ambitions or his exhortations to entrepreneurs to think big. There are too many start-ups raising money to create another app that will add incremental value at best. Many businesses have become so obsessed with optimizing their current production that they have lost the desire—or maybe even the ability—to seek out truly breakthrough innovations. And Thiel is onto something when he says that the "definite optimism" of the postwar era, which assumed that the future was going to be better because Americans were going to make it so, has been replaced by "indefinite optimism," a vague notion that Americans are going to keep improving but without any real idea for how to get there.

In some sense, what Thiel is saying to entrepreneurs is not just, "Think about what it takes to get rich," but also, "How do you want to spend your life?" Do you really want to have developed one of a million apps in the iTunes store or be a consultant who helps some company save a fraction of a penny making widgets? Do you, as so many end up doing, want to muddle along and hope something good happens? Or do you want to try to do something great and transformative?

Thiel obviously thinks that entrepreneurs should do the latter—if they have genuinely great ideas. (Otherwise, he suggests, they're better off going to work for someone else who has a great idea.) As he puts it, "better to risk boldness than triviality." And although he recognizes that luck plays a role in whether or not one succeeds, he contends that entrepreneurs need to "prioritize design over chance." Even though they may know that the potential outcomes of their actions are uncertain, they need to plan, and not use that uncertainty as a crutch. These are the things that Isaacson's innovators did. Isaacson's history suggests that by its very nature, successful innovation requires a leap of faith, a willingness to believe that one can go from zero to one. Or, as the computer scientist Alan Kay has put it, "The best way to predict the future is to invent it."

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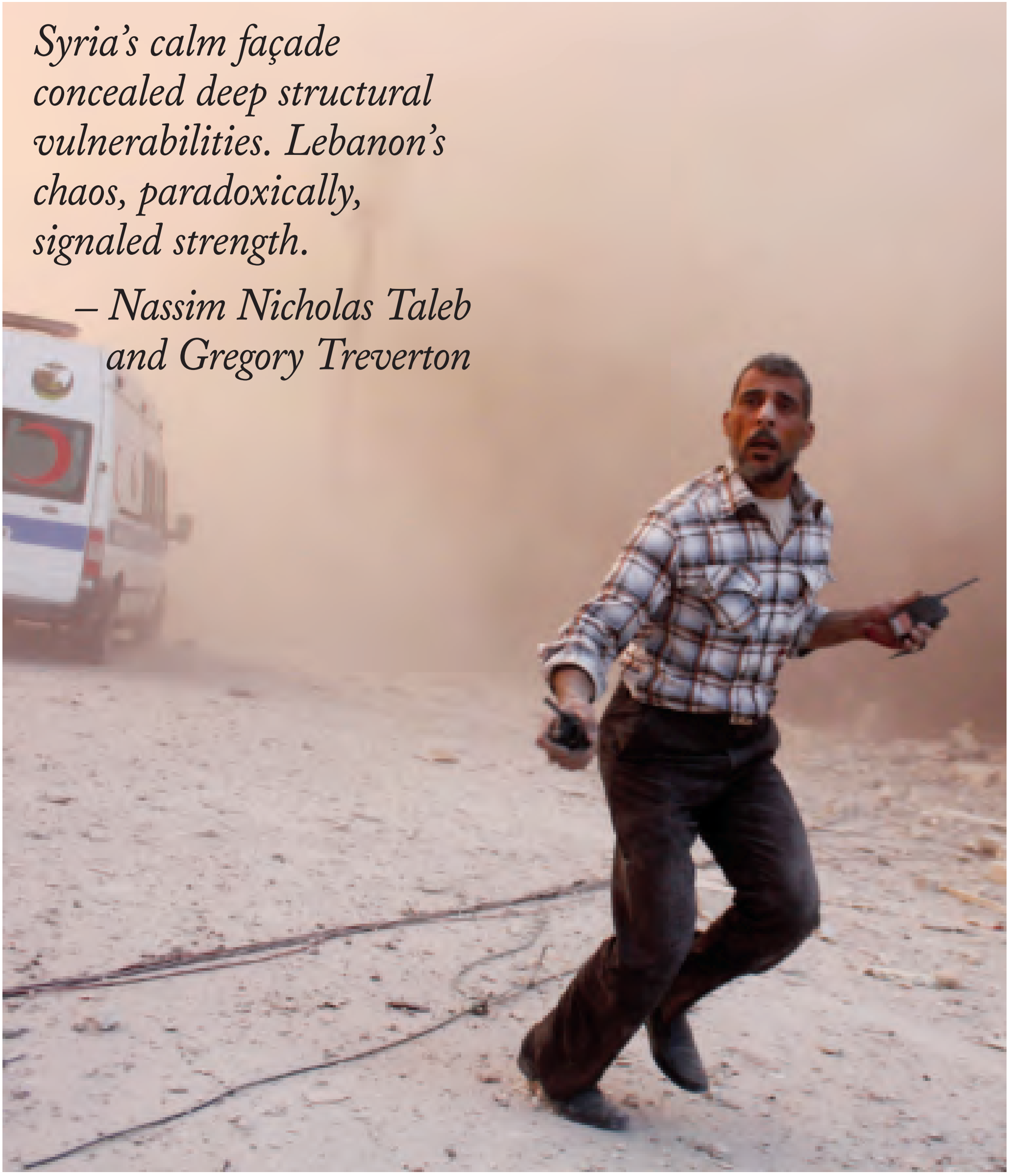

Syria's calm façade concealed deep structural vulnerabilities. Lebanon's chaos, paradoxically, signaled strength.

– Nassim Nicholas Taleb and Gregory Treverton

REUTERS / RAMI ZAYAT

The Calm Before the Storm

Why Volatility Signals Stability, and Vice Versa

Nassim Nicholas Taleb and Gregory F. Treverton

Even as protests spread across the Middle East in early 2011, the regime of Bashar al-Assad in Syria appeared immune from the upheaval. Assad had ruled comfortably for over a decade, having replaced his father, Hafez, who himself had held power for the previous three decades. Many pundits argued that Syria's sturdy police state, which exercised tight control over the country's people and economy, would survive the Arab Spring undisturbed. Compared with its neighbor Lebanon, Syria looked positively stable. Civil war had torn through Lebanon throughout much of the 1970s and 1980s, and the assassination of former Prime Minister Rafiq Hariri in 2005 had plunged the country into yet more chaos.

But appearances were deceiving: today, Syria is in a shambles, with the regime fighting for its very survival, whereas Lebanon has withstood the influx of Syrian refugees and the other considerable pressures of the civil war next door. Surprising as it may seem, the per capita death rate from violence in Lebanon in 2013 was lower than that in Washington, D.C. That same year, the body count of the Syrian conflict surpassed 100,000.

Why has seemingly stable Syria turned out to be the fragile regime, whereas always-in-turmoil Lebanon has so far proved robust? The answer is that prior to its civil war, Syria was exhibiting only pseudo-stability, its calm façade concealing deep structural vulnerabilities.

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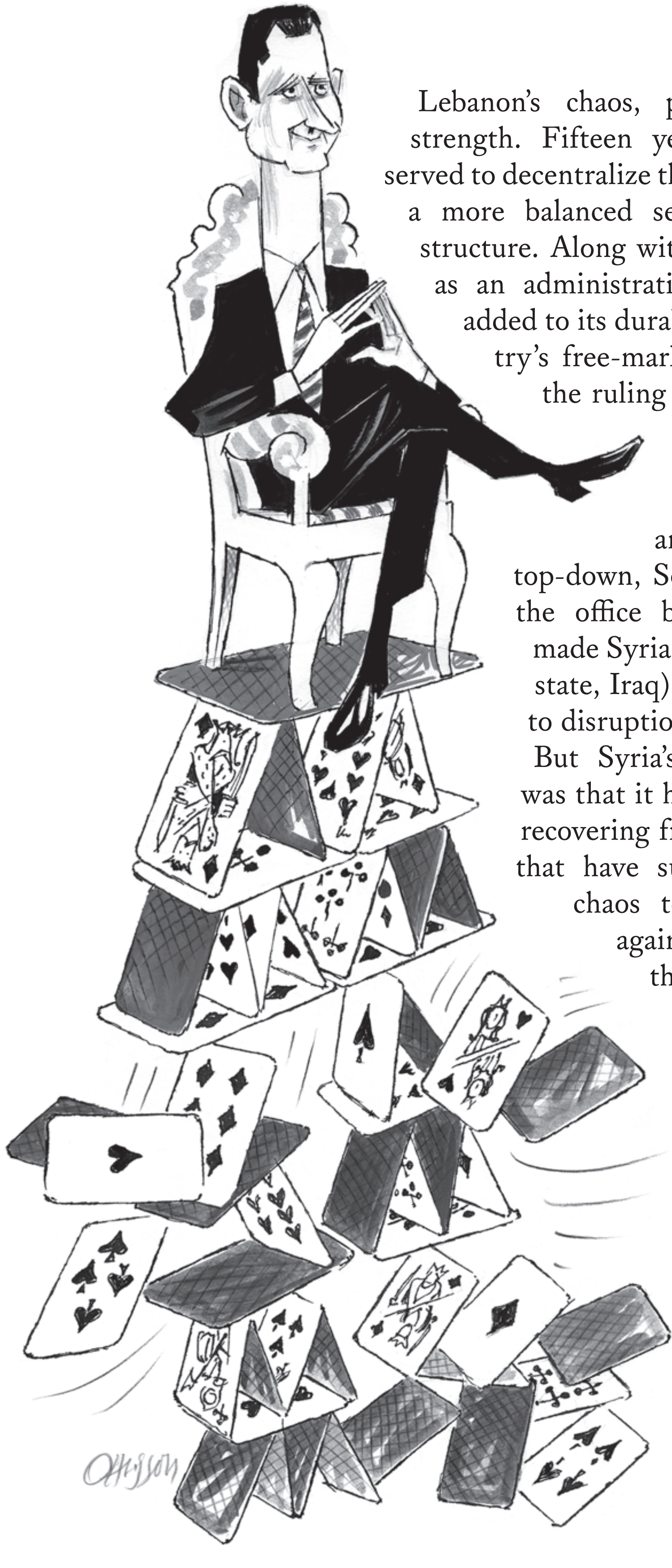

Lebanon's chaos, paradoxically, signaled strength. Fifteen years of civil war had served to decentralize the state and bring about a more balanced sectarian power-sharing structure. Along with Lebanon's small size as an administrative unit, these factors added to its durability. So did the country's free-market economy. In Syria, the ruling Baath Party sought to control economic variability, replacing the lively chaos of the ancestral souk with the top-down, Soviet-style structure of the office building. This rigidity made Syria (and the other Baathist state, Iraq) much more vulnerable to disruption than Lebanon.

But Syria's biggest vulnerability was that it had no recent record of recovering from turmoil. Countries that have survived past bouts of chaos tend to be vaccinated against future ones. Thus, the best indicator of a country's future stability is not past stability but moderate volatility in the relatively recent past. As one of us, Nassim Nicholas Taleb, wrote in the 2007 book *The Black Swan*, "Dictatorships that do not appear volatile, like, say, Syria or Saudi Arabia, face a larger risk of chaos than, say, Italy, as the latter has been in a state of continual political turmoil since the second [world] war."

The divergent tales of Syria and Lebanon demonstrate that the best early warning signs of instability are found not in historical data but in underlying structural properties. Past experience can be extremely effective when it comes to detecting risks of cancer, crime, and earthquakes. But it is a bad bellwether of complex political and economic events, particularly so-called tail risks—events, such as coups and financial crises, that are highly unlikely but enormously consequential. For those, the evidence of risk comes too late to do anything about it, and a more sophisticated approach is required.

Thus, instead of trying in vain to predict such "Black Swan" events, it's much more fruitful to focus on how systems can handle disorder—in other words, to study how fragile they are. Although one cannot predict what events will befall a country, one can predict how events will affect a country. Some political systems can sustain an extraordinary amount of stress, while others fall apart at the onset of the slightest trouble. The good news is that it's possible to tell which are which by relying on the theory of fragility.

Simply put, fragility is aversion to disorder. Things that are fragile do not like variability, volatility, stress, chaos, and random events, which cause them to either gain little or suffer. A teacup, for example, will not benefit from any form of shock. It wants peace and predictability, something that is not possible in the long run, which is why time is an enemy to the fragile. What's more, things that are fragile respond to shock in a nonlinear fashion. With humans, for example, the harm from a ten-foot fall in no way equals ten times as much harm as from a one-foot fall. In political and economic terms, a $30 drop in the price of a barrel of oil is much more than twice as harmful to Saudi Arabia as a $15 drop.

For countries, fragility has five principal sources: a centralized governing system, an undiversified economy, excessive debt and leverage, a lack of political variability, and no history of surviving past shocks. Applying these criteria, the world map looks a lot different. Disorderly regimes come out as safer bets than commonly thought—and seemingly placid states turn out to be ticking time bombs.

THE CENTER CANNOT HOLD

The first marker of a fragile state is a concentrated decision-making system. On its face, centralization seems to make governments more efficient and thus more stable. But that stability is an illusion. Apart from in the military—the only sector that needs to be unified into a single structure—centralization contributes to fragility. Although centralization reduces deviations from the norm, making things appear to run more smoothly, it magnifies the consequences of those deviations that do occur. It concentrates turmoil in fewer but more severe episodes, which are disproportionately more harmful than cumulative small variations. In other words, centralization decreases local risks, such as provincial barons pocketing public funds, at the price of increasing systemic risks, such as disastrous national-level reforms. Accordingly, highly centralized states, such as the Soviet Union, are more fragile than decentralized ones, such as Switzerland, which is effectively composed of village-states.

States that centralize power often do so to suppress sectarian tension. That inability to handle diversity, whether political or ethnoreligious, further adds to their fragility. Although countries that allow their sectarian splits to remain out in the open may seem to experience political turmoil, they are considerably more stable than those that artificially repress those splits, which creates a discontented minority group that brews silently. Iraq, for example, had a Sunni-minority-led regime under Saddam Hussein that repressed the Shiites and the Kurds; the country overshot in the opposite direction after Prime Minister Nouri al-Maliki, a Shiite, took office in 2006 and began excluding the Sunnis. Indeed, research by the scholar Yaneer Bar-Yam has shown that states that have well-defined boundaries separating various ethnic groups experience less violence than those that attempt to integrate them. In other words, people are better next-door neighbors than roommates. Thus, in countries riven by sectarian divides, it makes more sense to give various groups their own fiefdoms than to force them to live under one roof, since the latter arrangement only serves to radicalize the repressed minority.

Moreover, centralization increases the odds of a military coup by making the levers of power easier to seize. Greece, for example, was highly centralized when a group of colonels overthrew the government in 1967. Italy might have appeared just as vulnerable around the same time, given that it also suffered from widespread social unrest and ideological conflict, but it was saved by its political decentralization and narrow geography. The various economic and political centers were both figuratively and literally far from one another, distance that prevented any single military faction from seizing power.

Just as states composed of semiautonomous units have fared well in the modern era, further back in history, the most resilient polities were city-states that operated under empires that provided a measure of protection, from Pax Romana to Pax Ottomana. But at the tail end of their existence, many empires began to centralize, including Pharaonic Egypt and the Ming dynasty in China. In both cases, the empires tightened the reins after, not before, they thrived, ruling out centralization as a cause of their success and fingering it as an explanation for their subsequent failure.

On its face, centralization seems to make governments more stable. But that stability is an illusion.

City-states both old and new—from Venice to Dubai to Geneva to Singapore—owe their success to their smallness. Those who compare political systems by looking at their character without taking into account their size are thus making an analytic error: city-states are remarkably diverse in terms of their political systems, from the most democratic (Venice) to the most enlightened but autocratic (Singapore). Just as an elephant is not a large mouse, China is not a bigger version of Singapore, even if the two share similar styles of government.

Again, consider Lebanon. For much of history, the Mediterranean was ringed by multilingual, religiously tolerant, and obsessively mercantile city-states, which accommodated a variety of empires. But most were eventually swallowed up by the modern nation-states. Alexandria was consumed by Egypt, Smyrna by Turkey, Thessaloniki by Greece, and Aleppo by Syria. Luckily for Lebanon, however, it was swallowed up by Beirut, not vice versa. After the collapse of the Ottoman Empire, the state of Lebanon was small and weak enough to get colonized by the city-state of Beirut. The result: over the past half century, living standards in Lebanon have risen in comparison to its peers. The country avoided the wave of statism that swept over the region with Gamal Abdel Nasser in Egypt and the Baath Party in Iraq and Syria, a trend that concentrated decision-making power and created dysfunctional bureaucracies, leading to many of the region's problems today.

UNSTEADY-STATE ECONOMY

The second soft spot is the absence of economic diversity. Economic concentration can be even more harmful than political centralization. Economists since David Ricardo have touted the gains in efficiency to be had if countries specialize in the sectors in which they hold a comparative advantage. But specialization makes a state more vulnerable in the face of random events.

For a state to be safe, the loss of a single source of income should not dramatically damage its overall economic condition. Places that depend on tourism, for example, are particularly susceptible to perceived instability (as Greece discovered after its economic crisis and Egypt discovered after its revolution), as well as unrelated events (as Hawaii found out immediately after 9/11) and even just the vagaries of fashion, as new hot spots replace older ones (as Tangier, Morocco, has come to recognize). Another common source of fragility is an economy built around a single commodity, such as Botswana, with its reliance on diamonds, or a single industry that accounts for the lion's share of exports, such as Japan's automobile sector. Even worse is when large state-sponsored or state-friendly enterprises dominate the economy; these tend to not only reduce competitiveness but also compound the downside risks of drops in demand for a particular commodity or product by responding only slowly and awkwardly to market signals.

The third source of fragility is also economic in nature: being highly indebted and highly leveraged. Debt is perhaps the single most critical source of fragility. It makes an entity more sensitive to shortfalls in revenue, and all the more so as those shortfalls accelerate. As Lehman Brothers experienced when it collapsed in 2008, as the confidence of investors wanes and requests for repayment grow, losses mount at an increasing rate. Debt issued by a state itself is perhaps the most vicious type of debt, because it doesn't turn into equity; instead, it becomes a permanent burden. Countries cannot easily go bankrupt—which, ironically, is the main reason people lend to them, believing that their investments are safe.

Leverage raises risks in much the same way. Dubai, for example, has plowed money into aggressive real estate projects, increasing its operating leverage and thus making any drops in revenue extremely threatening. Profit margins there are so thin that shortfalls could easily accelerate, which would rapidly push the emirate's companies into the red and drain state coffers. This means that Dubai, in spite of its admirable structure and governance, can rapidly go insolvent—as the world witnessed after the 2008 financial crisis, when Abu Dhabi had to bail it out.

THE VIRTUE OF VOLATILITY

The fourth source of fragility is a lack of political variability. Contrary to conventional wisdom, genuinely stable countries experience moderate political changes, continually switching governments and reversing their political orientations. By responding to pressures in the body politic, these changes promote stability, provided their magnitude is not too large—more like the gap between the Labour Party and the Conservative Party in the contemporary United Kingdom than that between the Jacobins and the royalists in revolutionary France. Moderate political variability also removes particular leaders from power, thus reducing cronyism in politics. When a state is decentralized, the variations are smoother still, since municipalities distribute decision-making power and allow for a plurality of political views.

It is political variability that makes democracies less fragile than autocracies. Italy is resilient precisely because it has been able to accommodate virtually constant political turmoil, training citizens for change and incubating institutions able to correct for mild instability. So far, perhaps predictably, none of the former dictatorships touched by the Arab Spring has demonstrated any such capacity. Egypt has reverted to military rule, and the others have fallen into varying degrees of chaos. Some states that emerged from autocratic rule without devolving into turmoil were able to develop means of accommodating change. Spain under Francisco Franco, for instance, over time became more and more an autocratic façade behind which the institutions of civil society could develop.

The fifth marker of fragility takes the proposition that there is no stability without volatility a step further: it is the lack of a record of surviving big shocks. States that have experienced a worst-case scenario in the recent past (say, around the previous two decades) and recovered from it are likely to be more stable than those that haven't. In part, this marker is simply providing information: countries that sustain chaos without falling apart reveal something about their strength that could not be discovered otherwise. But this marker also involves the idea of "antifragility," the property of gaining from disorder. Shocks to a state are educational, causing them to experience posttraumatic growth.

Look at Indonesia, Malaysia, the Philippines, South Korea, and Thailand. The fact that these countries weathered the 1997–98 Asian financial crisis suggests that they were robust enough to survive—and their impressive subsequent performance suggests that they might even have been antifragile, adjusting their institutions and practices based on the lessons of the crisis. Likewise, the fact that the former Soviet states have recovered from the collapse of the Soviet Union suggests that they are also relatively stable. The idea is analogous to child rearing: parents want to protect their children from truly serious shocks that they might not survive but should not want to shelter them from the challenges in life that make them tougher.

THE BEAUTIFUL AND DAMNED

These five markers function best as warning signals. They cannot indicate with high confidence whether a given country is stable—no methodology can—but they certainly can reveal if a given country should cause worry. Those countries that score poorly on multiple criteria are particularly concerning, since these markers are compounding: qualifying as fragile on two counts is more than twice as dangerous as doing so on one. When it comes to overall fragility, countries can vary from exhibiting no signs of fragility to being very fragile.

Saudi Arabia is an easy call: it is extremely dependent on oil, has no political variability, and is highly centralized. Its oil wealth and powerful government have papered over the splits between its ethnoreligious units, with the Shiite minority living where the oil is. For the same reason, Bahrain should be considered extremely fragile, mainly on account of its repressed Shiite majority.

Egypt should also be considered fragile, given its only slight and cosmetic recovery from the chaos of the revolution and its highly centralized (and bureaucratic) government. So should Venezuela, which has a highly centralized political system, little political variability, an oil-based economy, and no record of surviving a massive shock. Some of the same problems apply to Russia. It remains highly dependent on oil and gas production and has a highly centralized political system. Its one redeeming factor is that it surmounted the difficult transition from the Soviet era. For that reason, it probably lies somewhere between moderately fragile and fragile.

Some countries are best categorized as fragile but possibly doing something about it. Greece holds enormous quantities of debt and has an inflexible political system, but it has begun to undertake an economic restructuring. (Time will tell whether this is the beginning of a new era of responsibility or a false start.) Iran has an effectively centralized government that exhibits little variability and an economy tied to oil and gas production, yet the regime has been tolerating (although only implicitly) a measure of political dissent. And although Iran is nominally a theocracy, unlike Saudi Arabia, it appears to have an extremely adaptive form of Islam that may accommodate modernization. Greece and Iran could transform into more robust states or lapse into fragility.

Italy is resilient precisely because it has been able to accommodate virtually constant political turmoil.

Moderately fragile states include Japan, given its highest-in-the-world debt-to-GDP ratio, long-term dominance by a single party, dependence on exports, and failure to fully recover from its "lost decade"; Brazil, which is growing increasingly centralized and bureaucratized; Nigeria, which is highly centralized and dependent on oil yet has rebounded from the economic and political turmoil of the 1980s and proved somewhat adaptable in the face of new threats, such as the Islamist insurgent group Boko Haram; and Turkey, which is highly centralized and has no track record of recovery. (In addition, Turkey's dependence on foreign investment is incompatible with its aggressive pro-Islamist foreign policy, which turns off Western investors.) India is perhaps best considered slightly fragile. Its political system is relatively decentralized and has adapted to rapid population growth and uneven economic progress, and its economy is somewhat reliant on exports.

Italy, paradoxically, shows no signs of fragility. It is effectively decentralized and has bounced back from perennial political crises. It also experiences a great deal of harmless political variability, cycling through 14 prime ministerial terms in the past 25 years. France, by contrast, is more fragile—centralized (in spite of the lip service it pays to decentralization), indebted, and without a demonstrated comeback. The country is at risk of economic trauma, which would raise the danger of erratic political reactions. Those, in turn, would likely enhance the appeal of right-wing factions and radicalize the country's significant Muslim minority.

Then there is the China puzzle. China's stunning economic growth makes its future hard to assess. The country has recuperated remarkably well from the major shocks of the Maoist period. That era, however, ended nearly four decades ago, and so the recovery is hardly a recent comeback and thus less certain to protect against future shocks. What's more, China's political system is highly centralized, its economy is dependent on exports to the West, and its government has been on a borrowing binge as of late, making the country more vulnerable to slowdowns in both domestic and foreign growth. Are the gains from past turmoil big enough to offset the weakness from debt and centralization? The most likely answer is no—that what gains China has accrued by learning from trauma are dwarfed by its burdens. With each passing year, those lessons recede further into the past, and the prospects of a Black Swan of Beijing loom larger. But the sooner that event happens, the better China will emerge in the long run.

Egypt

Road map for recovery

Four years after the Arab Spring revolution of January 25, 2011, the people of Egypt want to see their country regain its geopolitical and strategic grandeur in the region. The new government, led by General Sisi, who also headed the transitional government after the ousting of President Morsi in June 2013, is steering the country through much needed structural and institutional reform to boost the fatigued economy.

Its position as the gateway between Europe, Asia and Africa, large demographics, historical ties and greenfield opportunities, have been key assets that allowed the country to become a regional power in the past. The government is again counting on these strategic advantages, combined with a raft of reforms, to revive the country's wealth and regain foreign investors' confidence. Citing improvements in the general atmosphere and signs of economic recovery, Moody's latest ranking of the country in October 2014, raised Egypt's credit outlook from "negative" to "stable". The ratings agency pointed out that the upgrade of outlook was due to the "stabilized political and security situation, the launch of government initiatives toward fiscal consolidation, signs of a growth recovery, an improvement in macroeconomic stability, and strong support from external donors".

The current situation is not without challenges but the country boasts a GDP of about $270bn, a population of over 80m and has more than $104bn worth of ventures planned - many of which are yet to be awarded. Thus the government has a large investment-donor conference planned for February 2015. Entitled the "Egypt Economic Summit", this is where the road map for recovery will be officially introduced and where a broad spectrum of projects will be offered to raise $10bn in 2015.

The investment portfolio will include a range of opportunities in water desalination, transportation, real estate, food and beverage, green and renewable energy, as well as other sectors of critical interest. An example is the Egyptian pharmaceutical industry which accounts for an impressive 30% of total medicinal supply in the MENA region (Middle East and North Africa). This sector has been growing steadily, in line with the general uptrend regionally. It has witnessed considerable progress and is expected to experience sustainable growth in the medium to long term. Increased domestic production and consumption coupled with foreign investment are likely to support the market's evolution and growth of local companies, such as Amoun Pharmaceutical, that have been spearheading its transformation.

Another highlight to attract the interest of local and foreign investors is the mega project of the second Suez Canal. Launched soon after General Sisi's presidential election in June 2014, phase one of this scheme is underway and involves digging another axis for the waterway. Better serving maritime trade (by reducing waiting time for vessels) and bolstering revenues for the country from $2bn to $5bn within five years are just two of its aims. The implementation of the project is being fully undertaken by private consortiums and, according to the Ministry of Investments, is moving ahead of schedule. Within a few days of the launch of this colossal endeavor, the population purchased Suez Canal investment certificates worth $8.4bn. For the first time in 60 years the people showed a social collective will to support and back the government in this gutsy and daring development, expressing their hope for a new Egypt.

One of the most difficult reforms underway is a $5.6bn cut in subsidized energy. It's painful for consumers, yet a vital component to restructure the state budget since, in recent years, this subsidization has annually accounted (at $15bn) for about a fifth of total expenditure. It also demonstrates (to international investors and donors) the nation's willingness to implement necessary measures and put in place critical policies to boost the country's fortunes.

The launch of government initiatives backed by fiscal reforms and large infrastructural projects are just some of the reasons for Egypt's improved overall outlook. The current leadership, backed by its regional Arab allies, is trusting in this new formula to reshape its country's economic, security and political landscape.

On the path to becoming "Partner of Choice"

Despite the political turmoil in the region, the past few years have seen Egypt's pharmaceutical industry not only continue to operate but also expand. Expected to reach $4.24bn by Q4 2014 at a compound annual growth rate (CAGR) of 11.4% (according to a sectorial report by GAFI, the General Authority for Free Trade and Investments), this resilience is due to some key factors. The modernization of the healthcare industry is one, coupled with the size of the market where, cites the African Development Bank, Egypt represents 23% of the middle class of Africa. The country is also considered by GAFI to have the lowest consumption rate of pharmaceutical products per capita in the world.

The nation's pharmaceutical sector comprises over 600 pharmaceutical companies including the presence of major multinationals companies like GlaxoSmithKline, Novartis and Pfizer. After 16 years of strategic development, Amoun Pharmaceutical Company (APC) ranks 1st amongst domestic companies and 3rd overall. As one of the leading local drug makers in Egypt, APC has five commercial branches in the country manufacturing human and veterinary pharmaceutical products and nutritional supplements. Bought in 2006, by a consortium of American and international investors (CVCI Private Equity fund - lately acquired by Rohatyn Group, Capital International Private Equity L.P. and Concord International), APC now operates a large, modern plant in El-Obour City, a suburb of Cairo. APC's state-of-the-art factory (designed by an American architectural firm) is considered to be one of the largest and most up-to-date pharmaceutical operations in Africa and the Middle East. APC's growth and expansion is due to the vision, determination and market know-how of its leadership.

With more than 30 years of experience at several pharmaceutical companies, including 25 at Pfizer, Dr Mohamed Roushdy took over as Chairman and CEO of APC in December 2012. Given his belief in APC and in the growth potential of this sector in Egypt, Dr Roushdy has decided to take on a new challenge. His plan is to gear up APC to become the "Partner of Choice" in Egypt for innovators, multinationals, regulators and the surrounding communities. The reasons why APC fits the profile of the ideal partner are many in Dr Roushdy's eyes, "We know the market, we know the business, we have the infrastructure, we speak the language of innovators and of multinationals, and we have credibility among regulators."

"We will never be satisfied because we want the best for this country"

DR MOHAMED ROUSHDY
Chairman & CEO of Amoun Pharmaceutical

The roots of APC's successful expansion over the years are founded in responsible growth as the current incumbent reveals, "We invest in our communities and in our people for long-term and sustainable growth. Our achievement has been to grow organically, do the right things and do things right, as well as to shape an enduring environment that will benefit everyone, because when there is prosperity, it should be for everyone. Investing in people is one of the pillars of APC's strategy. We do this by offering the best training and mentoring opportunities to maximize talent to its full potential. Developing a strong pool of professionals not only benefits APC, but the economy as a whole."

While Dr Roushdy acknowledges the challenges his sector faces, he nevertheless remains very positive about its potential: Egypt is one of the leading "growth markets" due to its large population, under-saturated market, its multilingual pool of well-educated professionals, its labor-cost leverage, as well as its geostrategic position at the crossroads of Africa, the Gulf countries and Europe. APC may be on the right path but Dr Roushdy is under no illusion that there remains a lot to be done, "We will never be satisfied," he explains, "Because we want the best for this country."

Europe Reborn

How to Save the European Union From Irrelevance

Matthias Matthijs and R. Daniel Kelemen

In 1982, *The Economist* marked the 25th anniversary of the European Economic Community, the precursor to the European Union, by featuring a tombstone dedicated to the organization on its cover. "Born March 25, 1957. Moribund March 25, 1982," it read. Then came an epitaph courtesy of the ancient Roman historian Tacitus: *Capax imperii nisi imperasset,* "It seemed capable of being a power, until it tried to be one." Inside, the magazine pilloried the community for its institutional weakness, bemoaned its citizens' growing disenchantment with European integration, and warned of a possible British exit.

Yet those dark hours marked the dawn of the European project, not its dusk. Just three years later, Jacques Delors, the former French finance minister, became the European Commission's eighth president and immediately injected a dose of vitality into the sluggish organization. His campaign to create a single market in Europe—an initiative that enjoyed enthusiastic support from British Prime Minister Margaret Thatcher—paved the way for the 1992 Maastricht Treaty, which established the EU. During Delors' decadelong tenure, the union strengthened its institutions, extended its authority into new policy areas, and welcomed five new member states. In the early 1990s, opinion polls found that 70 percent of Europe's citizens favored EU membership and less than ten percent opposed it. Within a decade, European integration had risen from the grave; the EU had proved itself to be far more resilient than even many of its supporters had expected it to be.

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This is a curious bit of history to recall today, as critics ring the EU's death knell once again. They point to a familiar list of omens—institutional impotence, voters' disillusionment with Brussels, and the threat of losing the United Kingdom—to suggest that the organization may soon unravel. Doomsayers can be found across Europe's political spectrum. They include Euroskeptics on the far right, such as the leader of France's National Front party, Marine Le Pen, who declared in October 2013 that the EU would "collapse as the Soviet Union collapsed." They also include Europhiles on the political left, such as Joschka Fischer, Germany's former foreign minister and longtime Green Party leader, who recently warned that the EU was in danger of implosion.

This time around, the EU indeed has serious reasons for concern. Public trust in EU institutions has hit all-time lows, and Euroskeptic parties made record gains in elections for the European Parliament in May 2014. And the EU's economic challenges today far exceed those of 30 years ago. Although the continent appears to have weathered the worst of the eurozone crisis, which roiled Europe between 2009 and 2012, Europe's economy remains in dire straits. Some feeble signs of recovery aside, the EU continues to teeter on the brink of deflation and risks falling into a triple-dip recession, as growth languishes and unemployment levels hover near record highs in southern Europe. Many citizens, especially the young, no longer associate the EU with greater freedom and opportunity; instead, they blame it for financial pain, prolonged joblessness, and a lack of democratic choice. Compounding the problem, the EU has appeared weak in the face of Russia's aggression on its doorstep and Hungary's slide toward autocracy within its own borders.

Reversing the EU's flagging fortunes will not be easy, but the relentless focus on its problems has obscured another reality. A convergence of factors—including capable new leaders, the gradual emergence of a new economic policy consensus, and, paradoxically, the mounting threats to the EU's territorial integrity from outside and within—offers Europe a window of opportunity in which to revive the union, recast its policies, and win back public support. To pull off such a turnaround, the EU will first have to get its economic house in order, refocus on growth, and fix the governance institutions that stand behind its common currency. European leaders must also adopt a more resolute and unified stance on security in order to strengthen the EU's geopolitical role in its neighborhood. Moreover, the EU must reclaim its credibility as a bastion of economic and political freedom, defending not only the integrity of the euro system but also the shared democratic values that bind together its member states. All of those steps are possible, however, and if they are taken, the union's future will be much brighter than critics expect.

The stakes could not be higher. A failure to act decisively would lead to further stagnation and, ultimately, irrelevance. But taking resolute steps could poise Europe for another rebirth.

IN GOOD HANDS

A number of recent developments have converged to create a rare political opening for the EU. First, the organization's new crop of leaders promises to be the strongest to head the organization since the Delors era. Foremost among them is Jean-Claude Juncker, the European Commission's new president. The cognac-sipping Luxembourger has faced criticism for belonging to the EU's old guard and therefore being an unlikely candidate to rejuvenate Europe. But Juncker can turn this weakness into his main strength. His vast institutional knowledge—he might have sat through more European Council meetings than anyone alive—makes him far better prepared than his predecessor, José Manuel Barroso, was to help Europe's decision-makers break through logjams and seal deals.

Juncker also enjoys the respect and backing of most heads of European government, having helped them navigate past economic crises as the former chair of the Eurogroup, a council of the eurozone's finance ministers. And thanks to a change in the process through which the president of the commission is elected, Juncker also has an explicit mandate from the European Parliament. Prior presidents were appointed directly by the European Council, before the parliament endorsed them. But in 2014, the parliament managed to link the president's selection directly to the outcome of the parliamentary elections: the body's party groups nominated candidates who then campaigned for the post. When the center-right European People's Party, which nominated Juncker, emerged victorious in the May 2014 elections, the parliament pressed national governments to select him. Juncker thus became the first commission president to have been elected, albeit still indirectly, by EU citizens—a position that equips him with greater authority to shape EU policy than his predecessors had.

Moreover, Juncker embodies the sensible centrist coalition that has powered every previous successful grand bargain over European

Curtain call: hanging the EU flag in Barcelona, May 2008

integration. Indeed, he is probably "the most socialist Christian Democrat there is," in the words of Daniel Cohn-Bendit, a left-wing German member of the European Parliament. And in performing his job, he will be backed by an impressive new team of European commissioners (who together make up the EU's executive arm and manage its policy portfolios). This set of incoming commissioners includes more heavyweight political players than any preceding group: nine former prime ministers or former deputy prime ministers and 19 former cabinet ministers.

Meanwhile, the European Council will be headed by former Polish Prime Minister Donald Tusk, a far stronger leader than his predecessor, the inconspicuous Herman Van Rompuy of Belgium (who was nicknamed the "gray mouse" of European politics for his unassuming leadership style). Tusk is one of the few EU leaders who won reelection after the global financial crisis. Following his victory, he went on to shepherd Poland through three additional years of steady economic growth, even as most of Europe faltered. And his strong working relationship with Chancellor Angela Merkel of Germany has invited hope that the duo, dubbed "Tuskel," will prove more effective at holding Europe together than was the odd couple known as "Merkozy"—Merkel and former French President Nicolas Sarkozy, whose often crackling partnership defined the EU's hesitant early response to the euro crisis.

REUTERS / ALBERT GEA

These new leaders are taking charge at a time when a new economic consensus has finally begun to take shape. Fearing deflation and yet another recession, European policymakers have become wary of the EU's narrow focus on austerity. Supporters of austerity, led by Merkel, champion budget discipline as the only way to restore European financial stability, but the policy has also produced adverse side effects, including persistently high unemployment and dangerously low levels of inflation. Many European leaders have grown increasingly desperate to stimulate economic growth. The most visible proponent of this emerging consensus is the president of the European Central Bank, Mario Draghi, who last August told a group of the world's central bankers that European governments should work in concert with the bank to encourage lagging consumption and investment—a vision, dubbed "Draghinomics" by some, that has been steadily gaining supporters.

CIRCLING THE WAGONS

External and internal threats to European unity have also yielded a renewed sense of solidarity. Nothing focuses the European mind quite like the sight of Russian tanks rolling westward. In the two decades preceding the Ukraine crisis, EU countries repeatedly promised to integrate their security and defense policies but failed to deliver. Yet unions of states tend to pull together when their members confront a common external threat. Ironically, Russian President Vladimir Putin just might be the leader who will finally succeed in pushing Europe to cooperate on defense after all others failed.

Indeed, a resurgent Russia on Europe's doorstep has finally spurred the EU to action. Although member states had initially been split in their reactions to the Russian annexation of Crimea in March 2014, Moscow's continued intervention in eastern Ukraine and the downing of Malaysia Airlines Flight 17 over Ukraine in July (almost certainly by Russian-backed separatists) have brought about a much-needed display of unity. The EU has since responded by imposing retaliatory sanctions on Russia and renewing its efforts to cut its reliance on Russian energy.

In another encouraging sign, this closing of the ranks enjoys wholehearted U.S. support—a marked change from 12 years ago. Back then, during the transatlantic rift over the Iraq war, Washington's policy reinforced the division between old and new Europe. The new U.S. approach to European security, however, rests on two watchwords: pooling resources and sharing the burden.

Just as Russian saber rattling has forced EU countries to draw closer, so, too, could the threat of a British exit ultimately strengthen the union. An attempt by the United Kingdom to leave the EU would almost certainly spark a more pointed continent-wide conversation about the benefits of European integration.

British Prime Minister David Cameron has promised to hold an "in or out" referendum on the country's EU membership by the middle of 2017 if his Conservative Party wins this year's elections. But even if a referendum does take place, an "out" vote appears unlikely—in large part because Cameron himself would work to avoid it. An exit not only would damage the British economy but also could trigger a renewed push for independence by Scotland, which remains more pro-EU than the rest of the United Kingdom. His bluster aside, Cameron dreads this outcome. He would far prefer a different scenario: lobbying the EU for greater concessions before personally campaigning for an "in" vote. For their part, Juncker, Merkel, and Tusk have all emphasized their willingness to work with the United Kingdom to address its concerns, short of limiting the EU's free movement of workers. In fact, during his presidential campaign last spring, Juncker promised to work out a "fair deal" with London.

Many Europeans no longer associate the EU with freedom and opportunity; instead, they blame it for financial pain.

If Cameron can win adequate concessions for the United Kingdom, then a British referendum could actually end up strengthening the union. The run-up to the vote would likely include a spirited campaign in favor of the "in" option, during which Cameron would extol the benefits of EU membership and other major European leaders would implore the British people to remain in the European family. A display of solidarity of this kind would represent a welcome change from the routine hurling of blame at Brussels by European leaders looking to deflect attention from their own policy shortfalls. It would also remind Europe's citizens of the benefits the union affords them. An "in" vote by the United Kingdom would put the issue to rest for at least a generation, bolster public support for the EU across the continent, and give EU policymakers the boost necessary to undertake critical reforms.

GROWING PAINS

To seize the opening before them and reboot the European project, EU leaders must pursue a new agenda. Taking bold, decisive action on a number of fronts would revive the European economy, win back disenchanted voters, and reestablish the union's authority on the world stage.

First, European policymakers must shift their economic focus from austerity and fiscal rules to investment and growth. For too many years, EU economic policy has been dictated by German fiscal conservatives, imposing unsustainable demands on member states on the eurozone's periphery, such as Greece and Portugal. The emphasis on austerity might have been politically necessary when the euro crisis began, providing a dose of pain to discourage governments from expecting future EU bailouts. But this policy has also stunted growth, encouraged deflation, and fed resentment across the continent. The time has come for European leaders to halt their single-minded and self-destructive pursuit of budget tightening.

New economic evidence shows unambiguously that too much austerity can deepen economic downturns; fiscal stimulus, by contrast, can produce a far greater boost to growth when implemented during severe recessions. Even the International Monetary Fund, generally a proponent of reining in government spending, criticized the EU's pursuit of austerity as too dogmatic in its 2012 *World Economic Outlook*. It also warned, in a 2013 analysis, that excessively low inflation was aggravating income inequality in the eurozone by deepening unemployment and stressing the poor. German resistance has so far prevented a loosening of the rules, but Germany looks increasingly isolated in its rigid stance. It appears likely that looming deflation and flagging growth could strengthen Germany's support for broader investment initiatives—and even make the country more willing to tolerate slight reinterpretations of fiscal rules.

To roll back austerity, EU leaders could borrow a page from Japanese Prime Minister Shinzo Abe's "three arrows" playbook and combine two short-term fixes—monetary expansion and fiscal stimulus—with longer-term structural reforms. On the monetary front, Draghi has already fired the first arrow, pledging in 2012 that the European Central Bank would do "whatever it takes" to save the euro. This past October, the bank began a round of private-sector quantitative easing, purchasing bank assets to inject cash into the economy. In this round, the bank committed itself to buying one

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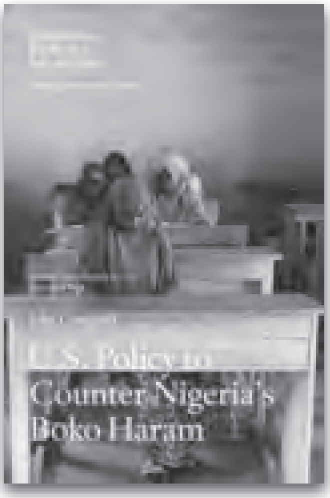

U.S. Policy to Counter Nigeria's Boko Haram

The militant Islamist group Boko Haram's increasingly bold attacks in Nigeria—most notably its April kidnapping of nearly three hundred female students—threaten to fuel further Muslim-Christian violence and destabilize West Africa, making the group a leading concern for U.S. policymakers, writes former U.S. Ambassador to Nigeria **John Campbell**, CFR senior fellow for Africa policy studies.

Read the report: *www.cfr.org/Nigeria_CSR*
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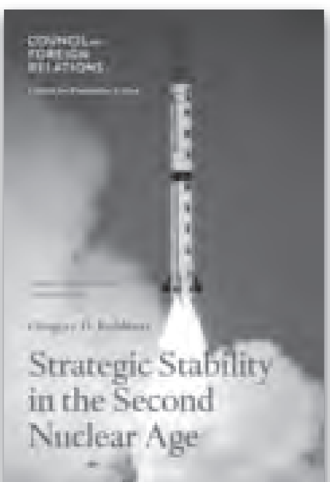

Strategic Stability in the Second Nuclear Age

Since the end of the Cold War, a new nuclear order has emerged, shaped by rising nuclear states and military technologies that threaten stability. George Mason University's **Gregory Koblentz** urges the Obama administration to work with other nuclear states to address sources of instability in the near term and establish processes for multilateral arms control efforts over the longer term.

Read the report: *www.cfr.org/second_nuclear_age*
CSR 71 · ISBN 978-0-87609-611-6 · 65 pages

trillion euros in covered bonds (low-risk debt securities issued by banks) and asset-backed securities (bundles of loans that banks package and resell) in order to clean up the balance sheets of eurozone banks and spur private lending to businesses.

These initial measures disappointed some investors, who feared that there were simply not enough such assets in the EU market and had hoped that the European Central Bank would commit to buying sovereign bonds—a more radical option that remains on the table. But the purchases have demonstrated that the bank stands ready to take decisive measures to stimulate the European economy.

Quantitative easing alone is not enough to rekindle growth, however. This policy must work in concert with the second arrow: fiscal measures that would directly stimulate lagging demand. The European Commission looks set to do its part. A new 300 billion euro investment fund proposed by Juncker would raise aggregate demand by channeling money into infrastructure projects and add firepower to the European Investment Bank. But policymakers must take more steps at the national level, where the real budgetary resources lie. Europe's stronger northern economies should stimulate demand through fiscal measures. Germany, in particular, should allow its wages at home to rise faster than in the rest of Europe in order to boost German citizens' purchasing power.

Finally, EU governments need to make more headway on the third arrow by liberalizing their labor and services markets. These measures would make it easier to hire and fire people and allow for more competition. Policy shifts of this kind would cause inevitable pain to vested interests and previously sheltered sectors, which explains why they have been so hard to implement. Tough reforms, however, would be easier to push through in the climate of growth that fiscal stimulus could help generate.

SHORING UP THE EURO

EU leaders must also restore confidence in the euro and the EU's monetary union. Perhaps miraculously, despite its travails, the single currency remains popular with European voters. Over two-thirds of the eurozone population supports the euro today—the same percentage as before the crisis. European leaders should demonstrate that they, too, continue to stand behind the euro and will ensure its stability in the future.

From its inception, Europe's economic and monetary union was incomplete in crucial respects. The introduction of the euro centralized monetary policy but left fiscal policy largely in the hands of national governments. This dichotomy has made it difficult to adjust to economic shocks that affect member states differently. Moreover, although the single market allowed banks to offer financial services across borders, the responsibility for regulating these banks fell to individual governments. The dangers inherent in that structure became apparent as the eurozone crisis unfolded and cascading banking crises threatened the solvency of member states that lacked adequate rescue mechanisms. To paraphrase Mervyn King, former governor of the Bank of England, EU banks were European in life but national in death.

EU leaders reacted with a series of reforms that addressed deficiencies in the eurozone's governance and restored some measure of stability. But this work remains incomplete. In particular, the EU's banking union—encompassing a set of rules and institutions that would supervise and regulate eurozone banks—remains half-baked and inherently vulnerable to future shocks. The EU should now bring this project to completion.

As part of the effort, the EU should consider introducing common deposit insurance and accelerating the establishment of an emergency credit line for failing banks. These measures would help transform the public image of the EU from an enforcer of austerity to a protector of wealth. Depositors visiting eurozone banks, for example, should see clear placards (similar to the ubiquitous Federal Deposit Insurance Corporation stickers displayed at U.S. banks) assuring them that the EU guarantees their savings.

The EU has taken major steps toward the banking union over the past three years: it has empowered the European Central Bank to regulate Europe's largest banks and set up the Single Resolution Mechanism, a central authority for handling bank failures. So far, however, it has not put in place a centralized system of deposit insurance. Moreover, the Single Resolution Mechanism remains incomplete, and its policies remain far too convoluted to effectively deal with large bank failures. Germany has led the opposition to these measures, fearing that German savers might eventually be forced to bail out depositors in Italy, Spain, and elsewhere. Defenders of the eurozone should counter this narrative by stressing that a stable currency union—which Germany favors—will eventually require a banking union with common deposit insurance and a common fiscal backstop.

Finally, in the longer term, the EU should consider issuing limited amounts of eurobonds, a common instrument that would pull together the debts of the countries using the euro. Merkel and German Finance Minister Wolfgang Schäuble have consistently opposed such a move, out of fear of building what they call a "debt union." Admittedly, even a well-designed and limited eurobond scheme would create some moral hazard. But advocates of this strategy must stress its many potential benefits. Eurobonds would ensure financial-market stability, enhance the euro's standing as a global reserve currency, increase the liquidity of the European bond market, and provide the eurozone with the common safe asset it so desperately needs in times of crisis. These assured benefits far outweigh the potential costs.

A BASTION OF VALUES

Even as European countries deepen their economic integration, they must remember that European values are just as important to defend as financial stability. Russia's aggression in Ukraine has provided a dramatic reminder of the security risks European countries face—and of the EU's persistent failure to craft unified foreign and security policies. This shortfall is not for lack of public support. According to Eurobarometer surveys (regular polls conducted by the European Commission), despite the growing disillusionment with the EU, more than 70 percent of Europeans—including majorities in every member state—want the union to develop a common security and defense policy. Yet national governments have thus far ignored their publics' wishes and remained loyal to their countries' powerful national defense industries.

Ironically, the United Kingdom's quest to renegotiate the terms of its EU membership might offer a rare opportunity to break the impasse. As European leaders try to accommodate the United Kingdom's demands for reform in other areas, they should encourage the country to take on a stronger leadership role on foreign and security matters. As a start, the United Kingdom could lead efforts to press other member states to live up to their previous commitments to pool defense resources and share military capabilities. Although the notion that the United Kingdom would approve a truly common European defense policy may seem far-fetched today, it is not an impossible proposition. As its own military budget shrinks and its risk of becoming a second-rank military power grows, the United Kingdom could be tempted by the allure of saving costs while enhancing its prestige to assume greater leadership.

More fundamentally, there can be no credible European security and defense policy without the United Kingdom, the country that remains Europe's strongest military power (rivaled only by France). Inviting London to take on more responsibilities in this area would go some way toward offsetting its lesser involvement in other fields of European integration and its absence from the monetary union.

The EU's collective security would benefit from greater cooperation in other fields as well. Energy policy is a case in point. A sure way to counter Russia's stranglehold on European energy supplies is to establish a true European energy union—a path that Tusk advocated last spring. If created, this institution would jointly negotiate gas contracts on behalf of all EU member states and coordinate their responses should Russia interrupt its deliveries. An energy union would also help augment infrastructure needed to import liquefied natural gas from other suppliers, including the United States. Even though progress in this arena has been slow—due to conflicts of interest and disagreements among countries on burden sharing—the threat to energy supplies posed by Putin's increased aggression may convince Europe to unite.

Internal threats to the EU's integrity might prove even more dangerous than external ones, and the EU must act decisively to defend democracy and the rule of law inside its borders. A number of EU member states have experienced democratic backsliding in recent years. Hungary, above all, represents a critical test of the EU's resolve. Since sweeping to power in 2010, Viktor Orban, Hungary's prime minister, has eliminated democratic checks and balances, undermined judicial independence, hobbled independent media, installed loyalists in nearly all key government positions, and rigged election laws to favor his own party. In July, Orban publicly declared his intention to abandon liberal democracy in favor of building an "illiberal state," citing China, Russia, Singapore, and Turkey as role models. Despite these developments, however, Hungary has remained an EU member state in good standing. The EU's tentative response—issuing critical reports and bringing legal actions before European courts—has failed to deter Orban and has raised profound doubts about the union's political will to defend the very values it claims to represent.

The EU must take a much tougher line with the Orban regime. The European Commission should launch the so-called Article 7 procedure, which would allow the European Council to suspend Hungary's voting rights owing to serious and persistent breaches of the EU's fundamental values. And more important, EU leaders need to denounce Orban's actions. For far too long, leaders of the European People's Party faction in the European Parliament, a group that counts Orban's own political party as a member, have shielded Orban's government from criticism in the interest of partisan loyalty. These leaders—who include Juncker, Merkel, and Tusk—must now declare that Orban's tactics betray the principles for which they and the rest of Europe stand.

To date, Orban has often succeeded in turning EU criticism to his advantage with populist rhetoric that accuses Brussels of meddling in Hungary's internal affairs. But if center-right leaders from across Europe—members of Orban's own political family—join EU officials in denouncing his actions, Orban will not be able to continue to spin this tale.

The EU presents itself as a union of democratic values and has exerted a magnetic pull on neighboring countries undergoing democratic transitions. The recent pro-democracy protests in Ukraine, which toppled the corrupt Yanukovych government in February 2014, were a reminder that those struggling for democracy view the EU as a bastion of freedom. But if the EU allows even one member state to slide into autocracy, it will irreversibly diminish the meaning of EU membership.

EURO-MOJO

Skeptics have been planning the EU's funeral for decades, but time and again, the union has refused to die. During the EU's latest and most profound crisis, national governments once more chose to reaffirm and deepen their commitments. This rapid growth of EU power, however, has given rise to a number of misguided and counterproductive policies that have undercut public support and left the EU in a deep malaise. European citizens today largely ignore the EU's many achievements or take them for granted, instead equating the organization with economic pain and feckless leadership. The union endures, but it has lost its mojo.

The EU has worn out its default strategy of muddling through crises. Lurching from one calamity to the next has damaged the credibility of Brussels and national governments alike. It is time for a bold and far-reaching agenda. To see a Europe truly reborn and fit for the twenty-first century, EU leaders must reassert with confidence—on the economy, on security, and on democracy—that Europe is stronger when it stands united.

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Leaving the West Behind

Germany Looks East

Hans Kundnani

Russia's annexation of Crimea in March 2014 was a strategic shock for Germany. Suddenly, Russian aggression threatened the European security order that Germany had taken for granted since the end of the Cold War. Berlin had spent two decades trying to strengthen political and economic ties with Moscow, but Russia's actions in Ukraine suggested that the Kremlin was no longer interested in a partnership with Europe. Despite Germany's dependence on Russian gas and Russia's importance to German exporters, German Chancellor Angela Merkel ultimately agreed to impose sanctions on Russia and helped persuade other EU member states to do likewise.

Nevertheless, the Ukraine crisis has reopened old questions about Germany's relationship to the rest of the West. In April, when the German public-service broadcaster ARD asked Germans what role their country should play in the crisis, just 45 percent wanted Germany to side with its partners and allies in the EU and NATO; 49 percent wanted Germany to mediate between Russia and the West. These results led the weekly newsmagazine *Der Spiegel*, in an editorial published last May, to warn Germany against turning away from the West.

Germany's response to the Ukraine crisis can be understood against the backdrop of a long-term weakening of the so-called *Westbindung*, the country's postwar integration into the West. The fall of the Berlin Wall and the enlargement of the EU freed the country from its reliance on the United States for protection against a powerful Soviet Union. At the same time, Germany's export-dependent economy has become increasingly reliant on demand from emerging

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markets such as China. Although Germany remains committed to European integration, these factors have made it possible to imagine a post-Western German foreign policy. Such a shift comes with high stakes. Given Germany's increased power within the EU, the country's relationship to the rest of the world will, to a large extent, determine that of Europe.

THE GERMAN PARADOX

Germany has always had a complex relationship with the West. On the one hand, many of the political and philosophical ideas that became central to the West originated in Germany with Enlightenment thinkers such as Immanuel Kant. On the other hand, German intellectual history has included darker strains that have threatened Western norms—such as the current of nationalism that emerged in the early nineteenth century. Beginning in the latter half of the nineteenth century, German nationalists increasingly sought to define Germany's identity in opposition to the liberal, rationalistic principles of the French Revolution and the Enlightenment. This version of German nationalism culminated in Nazism, which the German historian Heinrich August Winkler has called "the climax of the German rejection of the Western world." Germany, therefore, was a paradox: it was part of the West yet produced the most radical challenge to it from within.

After World War II, West Germany took part in European integration, and in 1955, as the Cold War heated up, it joined NATO. For the next 40 years, the *Westbindung*, which led Germany to cooperate and pursue joint security initiatives with its Western allies, became an existential necessity that overrode other foreign policy objectives. Germany continued to define itself as a Western power through the 1990s. Under Chancellor Helmut Kohl, a reunified Germany agreed to adopt the euro. By the end of the decade, the country appeared to have reconciled itself to the use of military force to fulfill its obligations as a NATO member. After 9/11, Chancellor Gerhard Schröder pledged "unconditional solidarity" with the United States and committed German troops to the NATO mission in Afghanistan.

Over the past decade, however, Germany's attitude toward the rest of the West has changed. In the debate about the 2003 invasion of Iraq, Schröder spoke of a "German way," in contrast to the "American way." Since then, Germany has hardened its opposition to the use of military force. After its experience in Afghanistan, Germany appears to have decided that the right lesson from its Nazi past is not "never again Auschwitz," the principle it invoked to justify its participation in the 1999 NATO military intervention in Kosovo, but "never again war." German politicians across the spectrum now define their country as a *Friedensmacht*, a "force for peace."

Germany's commitment to peace has led the EU and the United States to accuse Germany of free-riding within the Western alliance. Speaking in Brussels in 2011, U.S. Defense Secretary Robert Gates warned that NATO was becoming "a two-tiered alliance . . . between those willing and able to pay the price and bear the burdens of alliance commitments, and those who enjoy the benefits of NATO membership, be they security guarantees or headquarters billets, but don't want to share the risks and the costs." He singled out for particular criticism those NATO members that spend less on defense than the agreed-on amount of two percent of GDP; Germany spends just 1.3 percent. In the past few years, France has similarly criticized Germany for its failure to provide sufficient support for military interventions in Mali and the Central African Republic.

Germany has produced the most radical challenge to the West from within.

One reason Germany has neglected its NATO obligations is that the *Westbindung* no longer appears to be a strategic necessity. After the end of the Cold War, the EU and NATO expanded to include some central and eastern European countries, which meant that Germany was "encircled by friends," as the former German defense minister Volker Rühe put it, rather than by potential military aggressors, and it was therefore no longer reliant on the United States for protection from the Soviet Union.

At the same time, Germany's economy has become more dependent on exports, particularly to non-Western countries. In the first decade of this century, as domestic demand remained low and German manufacturers regained competitiveness, Germany became increasingly dependent on exports. According to the World Bank, the contribution of exports to Germany's GDP jumped from 33 percent in 2000 to 48 percent in 2010. Beginning with Schröder, Germany began to base its foreign policy largely on its economic interests and, in particular, on the needs of exporters.

It's complicated: Putin and Merkel in Berlin, June 2012

REUTERS / THOMAS PETER

Increasing anti-American sentiment among ordinary Germans has contributed to the foreign policy shift, too. If the Iraq war gave Germans the confidence to split from the United States on issues of war and peace, the 2008 global financial meltdown gave it the confidence to diverge on economic issues. For many Germans, the crisis highlighted the failures of Anglo-Saxon capitalism and vindicated Germany's social market economy. The revelations in 2013 that the U.S. National Security Agency had been conducting surveillance on Germans and eavesdropping on Merkel's cell-phone calls further strengthened anti-American sentiment. Many Germans now say that they no longer share values with the United States, and some say that they never did.

To be sure, Germany's liberal political culture, a result of its Western integration, is here to stay. But it remains to be seen whether Germany will continue to align itself with its Western partners and stand up for Western norms as it becomes more dependent on non-Western countries for its economic growth. The most dramatic illustration of what a post-Western German foreign policy might look like came in 2011, when Germany abstained in a vote in the UN Security Council over military intervention in Libya—siding with China and Russia over

France, the United Kingdom, and the United States. Some German officials insist that this decision did not prefigure a larger trend. But a poll conducted shortly after the vote by the foreign policy journal *Internationale Politik* found Germans to be split three ways over whether they should continue to cooperate primarily with Western partners; with other countries, such as China, India, and Russia; or with both.

THE NEW *OSTPOLITIK*

Germany's policy toward Russia has long been based on political engagement and economic interdependence. When Willy Brandt became chancellor of West Germany in 1969, he sought to balance the *Westbindung* with a more open relationship with the Soviet Union and pursued a new approach that became known as the *Ostpolitik*, or "Eastern policy." Brandt believed that increasing political and economic ties between the two powers might eventually lead to German reunification, a strategy his adviser Egon Bahr called *Wandel durch Annäherung*, "change through rapprochement."

Since the end of the Cold War, economic ties between Germany and Russia have expanded further. Invoking the memory of Brandt's *Ostpolitik*, Schröder began a policy of *Wandel durch Handel*, or "change through trade." German policymakers, and particularly the Social Democrats, championed a "partnership for modernization," in which Germany would supply Russia with technology to modernize its economy—and, ideally, its politics.

These ties help explain Germany's initial reluctance to impose sanctions after the Russian incursion into Ukraine in 2014. In deciding whether or not to follow the U.S. lead, Merkel faced pressure from powerful lobbyists for German industry, led by the Committee on Eastern European Economic Relations, who argued that sanctions would badly undermine the German economy. In a show of support for Russian President Vladimir Putin, Joe Kaeser, the CEO of Siemens, visited the Russian leader at his residence outside Moscow just after the annexation of Crimea. Kaeser assured Putin that his company, which had conducted business in Russia for roughly 160 years, would not let "short-term turbulence"—his characterization of the crisis—affect its relationship with the country. In an editorial in the *Financial Times* in May, the director general of the Federation of German Industries, Markus Kerber, wrote that German businesses would support sanctions but would do so "with a heavy heart."

Germany's heavy dependence on Russian energy also caused Berlin to shy away from sanctions. After the 2011 Fukushima nuclear disaster in Japan, Germany decided to phase out nuclear power sooner than planned, which made the country increasingly dependent on Russian gas. By 2013, Russian companies provided roughly 38 percent of Germany's oil and 36 percent of its gas. Although Germany could diversify away from Russian gas by finding alternative sources of energy, such a process would likely take decades. In the short term, therefore, Germany has been reluctant to antagonize Russia.

For her support of sanctions, Merkel has faced pushback not just from industry but also from the German public. Although some in the United States and in other European countries have accused the German government of going too easy on Russia, many within Germany have felt that their government is acting too aggressively. When the German journalist Bernd Ulrich called for tougher action against Putin, for example, he found himself inundated with hate mail that accused him of warmongering. Even Frank-Walter Steinmeier, Germany's foreign minister, long perceived to be sympathetic to Russia, has faced similar accusations. The National Security Agency spying revelations only increased sympathy for Russia. As Ulrich put it in April 2014, "When the Russian president says he feels oppressed by the West, many here think, 'So do we.'"

Germans are split over whether to cooperate with Western partners or with countries such as Russia and China.

That type of identification with Russia has deep historical roots. In 1918, the German writer Thomas Mann published a book, *Reflections of a Nonpolitical Man*, in which he argued that German culture was distinct from—and superior to—the cultures of other Western nations, such as France and the United Kingdom. German culture, he argued, fell somewhere between Russian culture and the cultures of the rest of Europe. That idea has experienced a dramatic resurgence in recent months. Writing in *Der Spiegel* in April 2014, Winkler, the historian, criticized the so-called *Russlandversteher*, Germans who express support for Russia, for repopularizing "the myth of a connection between the souls of Russia and Germany."

In crafting a response to Russia's annexation of Crimea, then, Merkel had to walk a fine line. She sought to keep open the possibility of a political solution for as long as possible, spending hours on the phone with Putin and sending Steinmeier to help mediate between Moscow and Kiev. It was only after Malaysia Airlines Flight 17 was shot down on July 17, 2014, allegedly by pro-Russian separatists, that German officials felt comfortable adopting a tougher stance. Even then, public support for sanctions remained tepid. An August poll by the ARD found that 70 percent of Germans supported Europe's second round of sanctions against Russia, which included banning visas for and freezing the assets of a list of prominent Russian businesspeople. But only 49 percent said that they would continue to back sanctions even if they hurt the German economy—as the third round of sanctions likely will.

Popular support for sanctions could slip further if Germany goes into recession, as many analysts say it might. Although German businesses have reluctantly accepted the sanctions, they have continued to lobby Merkel to ease them. And even as its economic efforts come under threat, Germany has made it clear that military options are not on the table. Ahead of the NATO summit in Wales in September, Merkel opposed plans for the alliance to establish a permanent presence in eastern Europe, which she argued would violate the 1997 NATO-Russia Founding Act. Put simply, Germany may not have the stamina for a policy of containment toward Russia.

PIVOT TO CHINA

Germany has also grown closer to China, an even more significant harbinger of a post-Western German foreign policy. As it has with Russia, Germany has benefited from increasingly close economic ties with China. In the past decade, German exports there have grown exponentially. By 2013, they added up to $84 billion, almost double the value of German exports to Russia. Indeed, China has become the second-largest market for German exports outside the EU, and it may soon overtake the United States as the largest. China is already the biggest market for Volkswagen—Germany's largest automaker—and the Mercedes-Benz S-Class.

The relationship between Germany and China grew only stronger after the 2008 financial crisis, when the two countries found themselves on the same side in debates about the global economy. Both have exerted deflationary pressure on their trading partners, criticized the U.S. policy of quantitative easing, and resisted calls from the United

States to take action to rectify macroeconomic imbalances in the global economy. Germany and China have, simultaneously, become closer politically. In 2011, the two countries began holding an annual government-to-government consultation—in effect, a joint cabinet meeting. The event marked the first time that China had conducted such a broad-based negotiation with another country.

For Germany, the relationship is primarily economic, but for China, which wants a strong Europe to counterbalance the United States, it is also strategic. China may see Germany as the key to getting the kind of Europe it wants, partly because Germany appears to be increasingly powerful within Europe but perhaps also because German preferences seem closer to its own than do those of other EU member states, such as France and the United Kingdom.

The tighter Berlin-Beijing nexus comes as the United States adopts a tougher approach to China as part of its so-called pivot to Asia—and it could pose a major problem for the West. If the United States found itself in conflict with China over economic or security issues—if there were an Asian Crimea, for instance—there is a real possibility that Germany would remain neutral. Some German diplomats in China have already begun to distance themselves from the West. In 2012, for example, the German ambassador to China, Michael Schaefer, said in an interview, "I don't think there is such a thing as the West anymore." Given their increasing dependence on China as an export market, German businesses would be even more opposed to the imposition of sanctions on China than on Russia. The German government would likely be even more reluctant to take tough action than it has been during the Ukraine crisis, which would create even greater rifts within Europe and between Europe and the United States.

A GERMAN EUROPE

Fears of German neutrality are not new. In the early 1970s, Henry Kissinger, then the U.S. national security adviser, warned that West Germany's *Ostpolitik* could play into the hands of the Soviet Union and threaten transatlantic unity. He argued that closer economic ties with the Soviet Union would increase Europe's dependence on its eastern neighbor, thereby undermining the West. The danger Kissinger foresaw was not so much that West Germany might leave NATO but, as he put it in his memoir, that it might "avoid controversies outside of Europe even when they affected fundamental security interests." Fortunately for Washington, the Cold War kept such impulses in check, as West Germany relied on the United States for protection against the Soviet Union.

Now, however, Germany finds itself in a more central and stronger position in Europe. During the Cold War, West Germany was a weak state on the fringes of what became the EU, but the reunified Germany is now one of the strongest—if not the strongest—power in the union. Given that position, a post-Western Germany could take much of the rest of Europe with it, particularly those central and eastern European countries with economies that are deeply intertwined with Germany's. If the United Kingdom leaves the EU, as it is now debating, the union will be even more likely to follow German preferences, especially as they pertain to Russia and China. In that event, Europe could find itself at odds with the United States—and the West could suffer a schism from which it might never recover.

Madagascar

A NEW ERA

"It is time to end the Malagasy paradox." With this bold, forward-looking statement, the democratically elected President of Madagascar, **H.E. Hery Rajaonarimampianina**, perfectly encapsulates the country's challenges in its quest to become a driving force in Africa and sets the road ahead for the country. International indicators have welcomed Rajaonarimampianina's arrival to power, putting an end to the political turmoil that reigned from 2009 to 2013.

The Malagasy paradox consists of two diverging circumstances. Although Madagascar is unique in its incomparable biodiversity, exceptional mineral endowment, and vibrant and engaged youth, years of political mismanagement and disrespect for the rule of law have left 92 percent of its 22 million inhabitants below the poverty line. For Rajoanarimapianina, political will, good governance, and inclusive politics can reverse this situation.

> With the election of H.E. Hery Rajaonarimampianina in January 2014, the one-year anniversary of a sound reform program for sustainable and inclusive development marks the time for Madagascar to enter a new era and unlock its tremendous potential.

Though five years of political, economic, and social turmoil diverted the country away from its development goals, the Malagasy people are proving their ability to overcome crises. January 2015 marks the one-year anniversary of Rajaonarimampianina's election and of a sound reform program for sustainable and inclusive development.

TREASURE ISLAND

Ideally positioned at the crossroads of fast-growing Africa and Asia, Madagascar is a jewel in terms of natural capital, flora, and fauna. Given its size and diversity, it is no surprise that the country has earned the nickname of the "island continent."

Superlatives abound to describe the ecosystem of the island. Surrounded by five thousand kilometers of coastline with beautiful lagoons and landscapes, Madagascar has 5 percent of the world's biodiversity, of which more than 70 percent are to be found nowhere else on earth. Often associated with the famous lemurs that have become the country's symbol, together with its baobabs and travelers palm trees, Madagascar is also home to 190 types of amphibians, 250 types of reptiles, and thousands of plant varieties. In addition to this exceptional environment, Madagascar's land is extremely fertile but remains largely unexplored.

Statistically speaking, the country's potential is even more impressive. With its supply of gold, nearly half of the world's sapphires, and a huge variety of precious stones such as rubies and emeralds, the country is the new Eldorado for mining, a sector which accounts for only 1 percent of its gross domestic product.

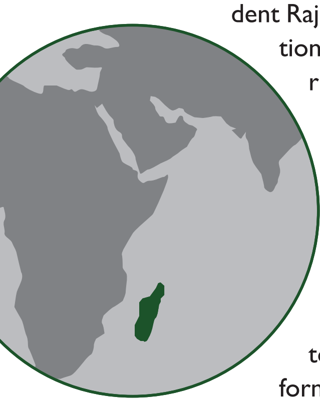
Finally, the Big Island's favorable climate, which ranges from temperate to tropical, facilitates the exploitation of diversified cultivation. Madagascar is one of the few countries capable of exporting agricultural products throughout the year and across the seasons. The country currently produces 80 percent of the world's vanilla and is one of the leading exporters of spices and essential oils.

RETURN TO DEMOCRACY

The international community has praised the political transition underway as a decisive turning point in Madagascar's development. The president's determination and policies to reinstate the rule of law and good governance represent a first step toward the restoration of solid democratic foundations. In his words, the "rule of law and good governance are the pillars of Madagascar's reconstruction." He continues: "Only through these two founding principles will we be able to normalize our relations with donors, international investors and all the democratic countries in the world."

> "Rule of law and good governance are the pillars of Madagascar's reconstruction."
>
> **H.E. Hery Rajaonarimampianina**
> President of Madagascar

Since taking office, the eighth president of Madagascar has clearly distanced himself from the former transitional regime by forming a government of national unity to launch necessary structural reforms to secure a stable and prosperous future. In spite of political challenges, including the return of ousted President Marc Ravalomana to the island in October 2014, President Rajaonarimampianina's determination and policies to reinstate the rule of law and achieve national reconciliation represent a first step toward the restoration of solid democratic foundations. This new government is unified in its commitment to emerge from the five-year political crisis and put an end to the bad practices linked to former regimes. Prime Minister **Roger Kolo** backs the president in this approach: "Nearly 40 percent of Madagascar's budget is directly or indirectly diverted. The establishment of a good governance process starts with a strict control of public spending." With political risk now minimized, Madagascar is ready to begin a process of national reconciliation through an independent judicial system and better wealth distribution across the country. This will be fundamental in building institutional integrity and will keep Madagascar on its democratic course.



THE PATH TOWARD INCLUSIVE GROWTH

The island intends to take advantage of its new democratic breath to accelerate development. According to the International Monetary Fund (IMF), Madagascar's economic growth is projected to be at 3 percent in 2014 and should rise to 4 percent in 2015. But it will not stop there: "We aim to achieve double-digit growth from 2016," predicts the Minister of Commerce and Consumer Affairs, **Narson Rafidimanana**. To turn this goal into reality, Madagascar is developing a new National Development Plan (NDP), which will serve as the reference framework to support the country's economic recovery for the next five years.

The NDP also marks the government's will to regain autonomy in establishing Madagascar's development strategy after years under the supervision of international institutions. Minister of Economy **Herilanto Raveloharison**, notes categorically: "We must identify and meet citizens' expectations to restore the credibility of the State…If Madagascar does not have any development plan, investments will be focused on the priorities established by international donors." This new strategic roadmap will be pivotal in establishing wide-reaching inclusive growth. According to Roger Kolo, "the Malagasy people…have demonstrated tremendous mental strength and solidarity to withstand years of poverty. It is now a great time to give them hope for the future." The importance placed on education, health, and infrastructure in the amended 2014 financial law attests to the government's determination to step over the poverty line and achieve sustainable growth. The law aims to integrate the $150 million of additional budgetary support received from international donors since the president's appointment. "It is necessary that the budgetary allocation has a real impact on the Malagasy people. It is our responsibility to optimize public spending to achieve tangible results and improve their lives," concludes Minister of Finance and Budget, **Jean Razafindravonona**.

To learn more, visit:
www.countrystrategic.com/madagascar2015

TOP 5 REASONS TO INVEST IN MADAGASCAR

1 **A Stable and Democratic Country**

The recent democratic election of Madagascar's new president Hery Rajaonarimampianina marks a welcome return to **stability** and **good governance**, paving the way for growth.

2 **An Investor-Friendly Environment**

Madagascar's government is committed to establish an attractive environment for the international investment community.

- Balanced and effective public-private partnership (PPP) policy
- Modernized investment code
- Clear and transparent legal framework

3 **A Strategic Location**

Madagascar, the world's fourth largest island, is ideally positioned at the crossroads between the fast-growing African and Asian markets.

Preferential market access to the United States (*Africa Growth Opportunity Act*), Europe (*Madagascar-EU*) and Africa (*Common Market for Eastern and Southern Africa*).

4 **An Exceptional Ecosystem**

- Over **18 million hectares** of usable land still unexploited
- **5,000 kilometers** of coastline lined with coral beaches and lagoons
- **80 percent** of endemic species

As an active and engaged partner in the Wealth Accounting and Valuation of Ecosystem Services (WAVES) initiative since 2011, Madagascar is committed **to integrate the value of its natural capital into national planning**.

5 **An Untapped Potential**

Internationally recognized for its **immense underground wealth**, including deposits of cobalt, nickel, iron, graphite, bauxite, uranium, and 50 percent of the world's sapphires, Madagascar has recently joined the **club of oil producers in Africa**.

"Madagascar can build on the abundance of its natural resources to obtain sustainable growth". World Bank, 2014

For more information:
Ministry of Economy and Planning
http://www.mei.gov.mg/

AN INTERVIEW WITH

HIS EXCELLENCY HERY RAJAONARIMAMPIANINA

>> The newly-elected president talks about a return to democratic and economic stability, structural reforms and the future of Madagascar's relations with the United States.

After almost five years of political crisis, what are your priorities as President to start a new chapter in Madagascar's development?

From 2009 to 2013, Madagascar was ostracized by the international community. Today, our country is entering a new era. The Malagasy people and I want to turn the page on fifty years of poverty and write a new chapter of our story. We want to end "the Malagasy paradox" in which our country has tremendous natural resources yet still figures among the world's poorest economies.

My ambition is to bring the Malagasy people what they have always aspired to, namely peace, happiness, and prosperity. We were hit by several crises caused by political mismanagement in a context of economic inequality. These events resulted in significant social and regional gaps. We must learn from these crises to build the country's future, hence my motivation in preaching the importance of establishing an inclusive and sustainable growth. This vision is based on the concept of national reconciliation which applies primarily to the economic sphere. We need the regions that have the highest concentration of the country's wealth to participate in the economic development of Madagascar. Every Malagasy should have the same opportunities to access education and healthcare.

> "Madagascar is not a land of adventure, it is a land of opportunity. I urge foreign investors to come and explore this land which offers all the necessary guarantees and incentives."
>
> **H.E. Hery Rajaonarimampianina**
> President of Madagascar

My responsibility is to regain authority through the rule of law. It is a prerequisite for the establishment and enforcement of good governance in Madagascar. Rule of law and good governance are the pillars of Madagascar's reconstruction. Only through these two founding principles will we be able to normalize our relations with donors, international investors, and all the democratic countries in the world. These two principles are also essential for the implementation of an independent judicial system and an effective policy to fight corruption.

What specific measures are necessary to generate an inclusive economic growth to benefit all Malagasy people, with special attention to vulnerable groups?

Our development strategy must be coherent, inclusive and sustainable. We must focus on the rural areas which account for nearly 80 percent of the population. The Malagasy agriculture is still archaic. It must be modernized to become more competitive and productive. My objective is to improve agricultural productivity. This will contribute towards achieving two main goals: food self-sufficiency and increased farm income.

Encouraging greater private sector participation in Madagascar's economy is one of your priorities. What makes Madagascar a unique destination for investors?

Firstly, under my responsibility, the Malagasy government aims to reassert the authority of the state. We will put a secure business environment in place for both people and goods to ensure long-term profitability for investments.

Then, in line with our growth strategy, Madagascar will focus on developing a comprehensive infrastructure framework and an efficient training plan. The primary strength of Madagascar lies in its youth. We must take advantage of it. Malagasy youths are well-educated and highly capable of contributing to the development of the country.

Moreover, Madagascar is a peaceful country. We do not share borders with any other countries and we have never been at war. Finally, our island has diverse natural resources and unique biodiversity.

Madagascar is not a land of adventure, it is a land of opportunity. I urge foreign investors to come and explore this land which offers all the necessary guarantees and incentives.

Your participation in the U.S.-Africa summit last August and the reintegration of Madagascar in the African Growth Opportunity Act (AGOA) testifies to the ability of Madagascar to become a privileged partner of the United States. How would you like to use this momentum to increase bilateral trade and develop synergies with the United States?

The U.S.-Africa Summit was a historic occasion that reflected the special attention given by the United States to the African continent as a whole. Africa is waking up just as China did thirty years ago. Building on an exceptional growth rate, a young population, and significant natural resources, Africa should occupy a prominent place in the community of nations. For this to happen, Africa faces a number of challenges in the reorganization of production chains and in good governance.

For Madagascar specifically, this meeting marked the recognition of our return to the international scene, not only from the United States, but from all African countries. The summit was an opportunity to seek new partnerships in agriculture, energy and education and to discuss opportunities for further collaboration between Malagasy and American companies. Companies including Exxon Mobil (already present in Madagascar), Boeing, large mining and infrastructure corporations, and universities have all shown an interest in partnering with us.

Madagascar is regaining its place in the international community through its reintegration within the AGOA. This agreement will be accompanied by the creation of tens of thousands of jobs in Madagascar. The AGOA is first and foremost an institutional synergy between Madagascar and the United States. It will also lead to increased commercial exchanges between American and Malagasy companies. As well as the reinstatement of Madagascar in the AGOA, other partnerships with American agencies such as the Millennium Challenge Corporation (MCC) should be relaunched.

What is unique about the Malagasy model of public-private partnerships (PPPs)?

Madagascar wishes to develop win-win partnerships with respect for each other's sovereignty. Sharing and respecting our policy of regional and inclusive development are two elements at the heart of our partnership policy. In all the projects we undertake with foreign investors, we attach great importance to training and technology transfer.

What would be your message to the readers of this feature and the participants in the annual meeting of the World Economic Forum in Davos?

Madagascar has changed. This change is reflected in our ambition to work toward inclusive growth and sustainable development. Madagascar wants to establish a secure and attractive environment for investors. I sincerely hope to see investors benefiting from the advantages offered by Madagascar: the dynamism of our population, our unique biodiversity, our tourism potential and our natural resources.

As a democratically-elected president, I want to emphasize that Madagascar is a country of law committed to respecting the fundamental principle of good governance.

BACK IN THE GLOBAL SPOTLIGHT

>> AFRICA'S NEW HUB OF OPPORTUNITY

Following the internationally-praised appointment of Hery Rajaonarimampianina, Malagasy officials have been taking part in meetings with other world leaders and positioning the country as the new opportunity hub in Africa. After five years of diplomatic isolation, the return of the island to the community of nations began with the participation of the President in the African Union Summit in January 2014. Since then, Madagascar has been renewing old friendships from summit to summit and steadily regaining its place on the international scene, while showcasing the new investment prospects that are rapidly arising in the island. The country has now been reinstated in the major trade zones including the Indian Ocean Commission (IOC), the Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC) and the United States-sponsored African Growth and Opportunity Act (AGOA).

Madagascar's new global status goes hand-in-hand with the support of international donors such as the World Bank and the International Monetary Fund (IMF) in the implementation of the government's economic policy.

By connecting the island to the world, Air Madagascar's mission is to become the country's engine of growth.

As the Minister of Industry and Private Sector Development, **Jules Etienne Rolland**, rightly notes, this international acceptance is fundamental; not only does it contribute towards "restoring trust between the Malagasy government and investors" but it also offers guarantees to foreign companies: "Madagascar is fully engaged with the World Bank Group to secure foreign investment through the Multilateral Investment Guarantee Agency (MIGA)."

> "Investors who arrived after the election of the President realize that the country is changing [...] it is the right time to invest in Madagascar."
>
> **Eric Robson,** Deputy CEO of the Economic Development Board of Madagascar (EDBM)

With political risk minimized, the participation of private capital in Madagascar's economy will be essential to continuing along the path of growth. According to **Eric Robson**, Deputy CEO of the Economic Development Board of Madagascar (EDBM)—an investment agency acting as the interface between the private sector and the administration—"investors who arrived after the election of the President realize that the country is changing […] it is the right time to invest in Madagascar."

Now that the State has been widely recognized as a trusted partner, Madagascar's government is eager to create the ideal framework for the empowerment of the private sector. Entrusted with this task, the Minister of Economy and Planning, Herilanto Raveloharison, is determined that the attractiveness of Madagascar to the investment community lies in the preservation of the country's precious resources. In his words, "over 80 percent of our resources are endemic to Madagascar and their preservation should be a prerequisite for their exploitation." As such, the Minister calls for the ongoing commitment of investors in Madagascar's future development.

Supporting growth through Public-Private Partnerships (PPP)

Building on an improved business climate and the renewed dialogue with private companies, the government is committed to establishing a modernized PPP framework. "This new policy will intensify the use of concession contracts through the Build-Operate-Transfer (BOT) principle and will greatly contribute towards financing large-scale investment projects and anticipated public utilities," explains the Minister of Finance and Budget, Jean Razafindravonona. A new Ministerial Department for the promotion of PPPs composed of financial, fiscal and customs experts has recently been created in this regard and its mission will be to drive the new strategy implemented by the government. The Malagasy model of PPP is based on a balanced relationship between the government and private enterprises, creating a win-win situation. Minister of Transport and Meteorology, **Ulrich Andriantiana**, summarizes the principle as follows: "A PPP policy is effective only when each side is satisfied with the terms of the agreement. We need the State to retain some control, whatever form of partnership is chosen." The priority now is to consolidate dialogue between the Malagasy government and the private sector to establish a common vision and improved business climate.

BUILDING TOMORROW

>> Interview with **Rivo Rakotovao**, Minister of State in charge of Infrastructure and Spatial Planning

The creation of a Ministry of State in charge of Infrastructure and Spatial Planning demonstrates the priority given to this sector of the economy by H.E. President Rajaonarimampianina. What is the motivation behind this decision?

This decision is at the heart of President Hery Rajaonarimampianina's vision of a modern and developed Madagascar. Despite the support of the international community, Madagascar is still lacking both rural and urban infrastructures. Based on this fact, we decided to develop a comprehensive and coordinated infrastructure strategy for the next fifty years. This will contribute toward stimulating domestic consumption as well as directly and indirectly creating jobs.

What policies are made by your ministry to strengthen the participation of foreign investors in the development of major infrastructure projects?

At the moment, the government can only participate with up to half the required budget for the implementation of infrastructure projects in the country. Our priority is to establish public-private partnerships to provide new sources of funding in order to develop our infrastructure network. Our role is to be transparent and send a clear message to any international companies which are interested in Madagascar. The Ministry of State in charge of Infrastructure and Spatial Planning has put in place a strategy based on three principles: a modern land policy, a national spatial planning scheme and the creation of a Directorate-General responsible for the monitoring of major infrastructure projects. Finally, securing concessions through a clear regulatory framework is essential to reassure investors.

The United States announced its commitment to invest $14 billion in Africa during the first U.S.-Africa summit in July 2014. How will Madagascar take advantage of this opportunity to develop the U.S.-Madagascar relationship?

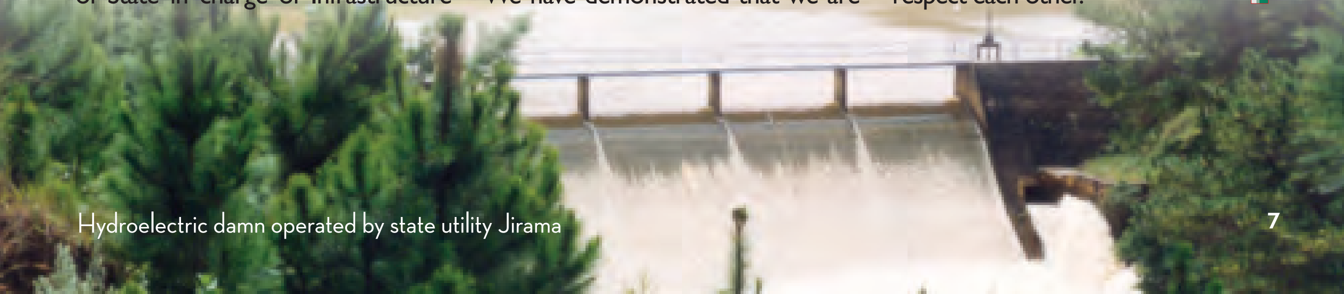
The participation of Madagascar in the U.S.-Africa Summit and our reintegration into AGOA are both tremendous assets in boosting Madagascar's economy and in future job creation. This will contribute towards unlocking the market potential of Malagasy products. The State of Madagascar will support national companies in this process and make sure that our products meet international standards.

What makes Madagascar an attractive destination for investment?

Madagascar undoubtedly has a strategic geographical position with a significant maritime territory. In addition, the return to constitutional order is a strong signal to the international investment community. We have demonstrated that we are now engaged in a process of good governance and in the establishment of clear legislation to secure investment. I am convinced that we need private partners who believe in the potential of Madagascar and that their presence will be fundamental in developing our economy. My office is committed to taking into account the specific characteristics of each company interested in our country.

> "We are ready to engage in a constructive dialogue with international investors in a spirit of respect and mutual understanding."
>
> **Rivo Rakotovao**
> Minister of State in charge of Infrastructure and Spatial Planning

Madagascar is now on the right track and has considerable potential in all sectors of the economy. The role of the Ministry of State in charge of Infrastructure and Spatial Planning is to secure investment and earn the trust of the Malagasy people. Madagascar attaches great importance to the principle of reciprocity: we understand and accept companies' profitability requirements and we expect them to comply with our legal framework. Major infrastructure projects will emerge very quickly. We are ready to engage in a constructive dialogue with international investors in a spirit of respect and mutual understanding. Nothing is impossible as long as we respect each other.



Hydroelectric damn operated by state utility Jirama

FEEDING MADAGASCAR AND BEYOND

>>In a country where 77.8 percent of the population lives in rural areas, agriculture is undoubtedly the backbone of the Malagasy economy.

Agriculture, which represents 20 percent of the country's gross domestic product (GDP), is an effective growth engine and bears huge potential for future development. In accordance with African Union frameworks, notably the Comprehensive Africa Agriculture Development Program (CAADP), President Rajaonarimampianina has cited agriculture as a way to lift the country out of poverty and achieve sustainable and inclusive growth.

THE MALAGASY GREEN REVOLUTION

Only 25 percent of exploitable land is currently being cultivated, leaving significant potential on the world's fourth largest island. Guided by the ambition to meet the 2003 Maputo Declaration Target (devoting 10 percent of the national budget to agriculture), the Ministry of Agriculture and Rural Development is launching a locally-owned green revolution. In line with the recommendations of the 2014 *Africa Progress Panel* report to reduce poverty and inequality more rapidly, the Malagasy government is seeking to boost its agriculture and fisheries sectors through facilitated access to loans and insurance for farmers.

> "Our country currently uses only a quarter of the arable land. There is so much potential in Madagascar."
>
> **Roland Ravatomanga**
> Minister of Agriculture and Rural Development

Minister of Agriculture and Rural Development, **Roland Ravatomanga**, an agronomist heading the Ministry since 2011, categorically states: "Our country currently uses only a quarter of the arable land. There is so much potential in Madagascar." To fully benefit from these opportunities, he calls for "support from the private sector to develop agriculture" in win-win partnerships with the Malagasy State.

Ravatomanga cites two short-term goals: First, he hopes Madagascar's production will feed the country and its neighboring islands, which lack arable land. Second, he aims for the country to become the Indian Ocean's food basket, a measure favored by the Commission of the Indian Ocean's countries at their July 2014 summit. The first step will be to achieve food self-sufficiency, starting with rice. Ravatomanga explains: "Madagascar currently produces 2.5 million tons of milled rice annually. We are aiming to achieve self-sufficiency in rice by 2016," insisting that "this is a realistic goal." Capitalizing on the country's huge natural resource potential, from crop cultivation to fishing, "there is strong political will to transform this potential into investment opportunities," he concludes.

THE MALAGASY BRAND: PRODUCTS OF EXCEPTION

Madagascar already benefits from an international brand for some of its high-value products, which are recognized around the globe as being the highest quality. Famed worldwide for its vanilla production which accounts for 80 percent of the global demand, Madagascar also ranks highly for shrimps, spices, and essential oils such as ylang-ylang, cinnamon, and cloves. The quality of the soil also makes Madagascar's coffee and chocolate beans among the world's finest. To protect the island's fragile ecosystem and to meet the needs of an increasing number of socially responsible consumers, the Minister of Agriculture and Rural Development is "currently working on the possibility of a transition towards fully organic farming," following in the footsteps of countries such as Morocco.

The minister also aims to merge modern agricultural techniques, which preserve the natural properties of the soil and produce, giving priority to environment-friendly fertilizers. The protection of the island is also fundamental to long-standing private sector operators such as TAF Products' manufacturer, the Greek-born entrepreneur **Panayotis Taloumis**. Although he proudly explains that the world's best coffee and chocolate contain Malagasy beans, like many of his peers, he also insists that investments in Madagascar must take long-term considerations into account.

CELEBRATING THE RENEWED U.S.-MADAGASCAR FRIENDSHIP

As the U.S. government increasingly turns its attention toward the African continent and recently announced $7 billion in new financing under the Doing Business in Africa (DBIA) campaign, Madagascar has a number of assets that could make it a preferred destination for U.S. investors. An observation shared by **Peter W. Hallinan**, President of the American Chamber of Commerce in Madagascar (Amcham): "Madagascar should naturally be a regional hegemon…there is only one place on the globe with the growth opportunity of Africa and the geopolitical safety of Australia, and that is Madagascar. There is a lot of commonality between the Malagasy and Americans. The Malagasy are a very entrepreneurial people."

Following the 2009 coup d'état, the United States suspended all non-humanitarian activities and direct assistance to Madagascar's governmental authorities. But today, both countries are opening a new chapter of collaboration. **Scott Reid**, chief executive officer and executive director of the Amcham, explains why Madagascar is an ideal place for American companies that seek to do business in Africa: "We are part of Africa and Asia—it is the best of both worlds–and as an island, there isn't the geopolitical risk of common borders. In addition, with a population of only 22 million people, it is relatively easy to penetrate the market." Building on its strategic location and its highly-skilled, low-cost labor force, Madagascar is destined to become the natural gateway to Africa. This ambition is echoed by **Salim Ismail**, chairman and CEO of the Socota Group, a front-runner in the textile industry: "Madagascar is undoubtedly a leader in the labor-intensive manufacturing industry … If a company succeeds in Madagascar, it has the potential to succeed on a larger scale throughout the African continent."

RETURN TO AGOA

The renewed U.S.-Madagascar friendship has been highlighted by the decision on June 26, 2014 to reinstate Madagascar's eligibility under the African Growth and Opportunity Act (AGOA). This return of Madagascar to the family of AGOA nations reflects the government's efforts to improve transparency and strengthen democratic rule, and offers exciting opportunities to expand bilateral trade. **Zouzar Bouka**, founding board member of Amcham and Chairman of the fast-growing company Vision Madagascar (VIMA) stresses the political dimension of this announcement: "As the United States saw the Malagasy political situation from a disinterested perspective, they offered a true lesson in integrity. They have always respected the rule of law, which results today in their support for the democratically elected President." To fully understand AGOA's effect on Madagascar's economy, one should refer to the situation in 2008. Before the transition period, which marked an end to the U.S.-Madagascar economic partnership, AGOA products accounted for 36 percent of the country's gross domestic product (GDP) and 85 percent of its textile exports were destined for the United States at that time. Armed with the conviction that the U.S.-Madagascar relationship needs to be strengthened in the future, President Rajaonarimampianina took advantage of his participation at the U.S.-Africa Summit and the sixty-ninth session of the UN General Assembly last September to advocate Madagascar's inclusion in AGOA and to seek an extension beyond 2015.

> "As the U.S. saw the Malagasy political situation from a disinterested perspective, they offered a true lesson in integrity. They have always respected the rule of law, which results today in their support for the democratically elected President."
>
> **Zouzar Bouka,** Founding Board Member of Amcham and Chairman of Vision Madagascar

AGOA in Figures

- Duty-free benefits for approximately **seven thousand items** including apparel, footwear, minerals, motor vehicle components, agricultural products, chemicals and steel
- Direct creation of **forty thousand jobs** and an additional **two hundred thousand indirectly**
- A total export figure of **$1 billion** for textile products expected in five years

VIMA Group

Creating a New Madagascar

Founded in 2000 by Zouzar Bouka, Vision Madagascar (VIMA) acts as the host for all foreign companies wishing to establish themselves in Madagascar by accompanying them along their development road and offering solutions and services to help them grow. In 15 years, VIMA Group has successfully diversified its activities to become a leader in the construction, real estate, procurement, and wood industries. Building on its recognized experience with prestigious clients, the Group is now ready to accelerate its development and become a major player in the support of oil and gas companies coming to Madagascar. VIMA also looks to new opportunities in sectors such as energy, mining and tourism.

Zouzar Bouka
From Antananarivo to Washington

Born in Madagascar, the 44-year-old visionary businessman has a special relationship with the U.S. After having spent several years in Florida, he decided to return to his home country and has been driven by his entrepreneurial spirit and the strong conviction that it is possible to "get things moving". But Bouka's fondness for the American continent has never left him and he has rapidly become an ambassador for the U.S.A. on the Big Island. He believes the U.S. and Malagasy cultures can complement each other: "Madagascar attaches great importance to community efforts whereas in the U.S., there is more focus on personal accomplishment. Each culture can learn from the other and find the right balance".

As a Founding Board Member and Immediate Past President of the Amcham in Madagascar, the Chairman of VIMA has played a pivotal role in strengthening the relationship between the two countries. In 2010 and 2014, he was selected to attend the Summit on Entrepreneurship initiated by President Obama. More recently, VIMA Group was the only Malagasy company to accompany H.E. Hery Rajaonarimampianina to the U.S.-Africa Leaders Summit. In his opinion, "this Summit highlighted the efficient American way of doing business and forging partnerships through effective networking."

Antananarivo City Hall, built by VIMA Construction in 2010

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new." This well-known quote from Socrates encapsulates the vision of VIMA Group's Chairman, Zouzar Bouka, who has a deep conviction that the key to Madagascar's success is to be open to the world: "Foreign direct investment in Madagascar will provide employment and training for people." In one of the world's poorest countries, the Group has made it a mission to contribute to the Malagasy welfare by easing the arrival of foreign investors to the island. "VIMA Group guides foreign companies at every step of the way, from their arrival to their sustainable establishment in Madagascar, and helps to build entities tailored to their needs," Bouka explains. As a pioneer in the construction of business parks and as an **exclusive partner of Regus**—the largest provider of flexible offices solutions—VIMA is perfectly placed to meet the highest standards of quality and performance. Building on significant experience with a variety of organizations, **VIMA CONSTRUCTION** has proven its ability to design and build a large portfolio of properties, including that for the diplomatic mission of South Africa and the impressive Antananarivo City Hall. "At first, investors will be provided with a short-term office thanks to Regus, then we will arrange the office space they need through VIMA CONSTRUCTION," he continues. However, the Group's ambition goes further: **VIMA REAL ESTATE** is currently erecting **Majungasaurus Mall**, one of the biggest industrial parks ever created in Madagascar. Located in the economic hub of Mahajanga, the 646,000-square-foot project will offer premium facilities to international businesses specialized in AGOA activities. And with the arrival of fiber optic connection developed by Orange in 2015, Bouka wants "Madagascar's West Coast to become our Silicon Valley; a city dedicated to IT exports based on the development model of Bangalore." In addition, the Group is the **holder of Century 21's master franchise** in Madagascar, Mauritius and the Seychelles. According to the Chairman, "this activity is still under development but is fully in line with our strategy to support foreign investors in the country, responding to their housing needs." The company has also extended its scope of activities to procurement through its branches **VIMA SERV'** and **VIMA OIL AND GAS**. In Bouka's words, "the added value of VIMA SERV' and VIMA OIL AND GAS lies in their ability to provide business products and services in a very short time." With the latter, the Group has become a privileged partner of specialized petroleum product suppliers. "We already have a Board in place and we are in talks with Brazilian, U.S., and British companies", Bouka concludes. As the exclusive licensee of **World Trade Centers Association**, VIMA organizes sporting events, such as the Marathon of Antananarivo, and is aiming to construct a prestigious building. The final branch of the Group is **VIMA WOODS**, the only forest tree company running under Forest Stewardship Council (FSC) standards. "We comply with rigorous safety and environmental norms and we do not have a detrimental impact on the forest's natural growth" Bouka enthuses. ■

VIMA

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Full interview of Zouzar Bouka available at:
www.countrystrategic.com/madagascar2015/vima

INDUSTRIAL REVIVAL

>>Interview with **Jules Etienne Rolland**, Minister of Industry and Private Sector Development

Could you share the priorities of your Ministry with us?

Our priority is to restore investors' confidence by creating a sound and attractive business climate through effective public-private partnerships. To this end, we work in close collaboration with the Economic Development Board of Madagascar—under the Ministry of Industry and Private Sector Development—to support and facilitate the participation of foreign investors in the country. The Ministry of Industry and Private Sector Development is fully engaged with the President in his fight against poverty, helping him to achieve the goal of creating five hundred thousand jobs by the end of his term.

What concrete steps does the Ministry take to encourage the participation of private capital in Madagascar's economy?

The foundation of our strategy is the establishment of incentives for investors. Specifically, we will soon be creating a Special Economic Zone (SEZ) and two free trade zones (FTZ). Prompted by my department, there are also plans to launch three ethanol production plants and an overall aim to reach a total of fifty plants across the country by 2015. These projects are extremely promising because Madagascar offers a favorable environment for the cultivation of sugar cane. The development of ethanol will create jobs while revitalizing the country's industry.

With the reinstatement of Madagascar to AGOA, which sectors have you identified as offering the most promising opportunities for cooperation with the United States?

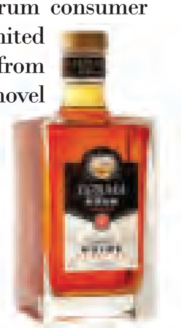
The return of Madagascar to AGOA is a synonym for hope for the Malagasy population and for its industry players. Not only will it benefit the textile industry, but it will also offer a unique opportunity to find new methods of industrial cooperation. In particular, I see areas such as mining, petroleum, agriculture and the processing of semi-precious stones as offering the most potential for expanding trade between the nations. Beyond AGOA, I seek the establishment of additional partnerships with American Development Funds such as the Millennium Challenge Corporation or the Power Africa initiative. As the world's largest foreign investor, the United States is a partner of choice for Madagascar and we have much to learn from the American entrepreneurial spirit and industrial know-how.

DZAMA RUMS *Natural Jewels of the Malagasy Industry*

It was in Nosy-Be, an island paradise in the Mozambique Channel, that Compagnie Vidzar's story started some thirty years ago in 1982. Among fields of ylang-ylang, cloves, black pepper and vanilla, entrepreneur Lucien Fohine realized that Madagascar's exceptional natural flora was an environment ripe for sugar canes, yielding rum with a distinctive flavor. He created the company Vieux Rhum de Dzamandzar—subsequently shortened to Vidzar—by setting up a distillery in the city of Dzamandzar and baptized his rum DZAMA to remind consumers of the product's origins.

DZAMA rums rapidly conquered the taste buds of regional and national markets and are now recognized as being Madagascar's finest rums. When Fohine's oenologist son with international training, Franck, became head of the company in 1996, he began to bring the flavor of DZAMA rums to the attention of the world. He has since developed innovative premium rums to meet global consumer demand. He explains, "like the gemstones of Madagascar, DZAMA rum gradually takes on different colors and differing aspects of intensity and light." For Vidzar, this has led to rapid expansion thanks to meticulous attention to the products' quality, an impeccable marketing strategy and a profound respect for Malagasy traditions.

Undoubtedly, DZAMA rums are among the world's best: international competitions, such as the Miami Rum Festival, have regularly acknowledged the outstanding quality of the products. The company recently set itself a new challenge to conquer the world's biggest rum consumer market: the United States. While the United States may be more familiar with rums from the Americas, Fohine says: "We offer a novel product compared to the more traditional rums" in a market where "there are genuine connoisseurs." He admires Bacardi, while maintaining its differentiation strategy. DZAMA is an "alternative to the rums U.S. customers already know." How so? "We offer a spicier rum with hints of vanilla."



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THE NEW ELDORADO

>> Madagascar is renowned for its rich biodiversity and its abundant natural resources, making the country a world-class destination for mining and petroleum companies.

MINING: PATHWAY TO PROSPERITY

Madagascar's supply of precious metals—gold, nearly half of the world's sapphires, and a huge variety of other gemstones such as rubies and emeralds—makes it a bountiful and largely unexplored land. Mining contributes between 0.5 and 1.5 percent to the country's gross domestic product (GDP) and is expected to rise to at least 8 percent by 2018.

Driven by two major projects in development—Ambatovy and QIT Madagascar Minerals—the Malagasy mining industry offers exciting prospects for the years ahead. **Joéli Valérien Lalaharisaina**, minister attached to the presidency for strategic resources, notes that "in addition to these two large mining projects, exploration for coal in the south of the island, bauxite in Manantenina, and iron in Soalala, are extremely promising prospects for investors."

Established with the support of the World Bank in 2002, the law on large-scale mining investments has helped ensure regulatory stability and incentives for investors. Additionally, in order to accelerate the development of the mining industry and encourage companies to resume their activities, the ministry has appointed a committee in charge of reviewing the mining framework. Lalaharisaina explains: "We plan to revise the current mining code soon in order to strike a better balance between private and public interests." The government is aware that only sustainable and transparent management of Madagascar's non-renewable underground resources will enable the island to maximize the benefits of the mining sector for the economy. The decision to lift the suspension of Madagascar from the Extractive Industries Transparency Initiative (EITI) in June 2014 marks an important step in that direction. "Our reintegration into the EITI system reflects a desire to establish a sustainable, balanced and inclusive management of the mining industry," concludes the minister.

OIL: A NEW SEA OF OPPORTUNITIES

With the current high oil prices and declining investment opportunities worldwide, Madagascar is perfectly positioned to attract oil companies that are looking for new growth leverage. Although the country's hydrocarbon potential has been explored for over a century, the island has only recently come to the investment community's attention. Last June, Madagascar Oil S.A. launched the first sale of crude oil, leading Madagascar into the exclusive club of oil producers. The Big Island is therefore living through a pivotal period in the development of the oil industry. It took advantage of the unique momentum to carry out an in-depth reform of its petroleum code. Developed by the *Office des Mines Nationales et des Industries Stratégiques* (OMNIS), the State regulatory authority and promotion agency for strategic resource industries, this new code will facilitate the arrival of foreign partners. **Bonaventure Rasoanaivo**, chief executive officer of OMNIS, outlines the key elements of the new petroleum code. "The general principle of the future petroleum code is good governance," which implies clearly identifying all agencies in charge of oil policy in Madagascar. Another priority, he adds, "is the simplification of the regulatory framework to make it more transparent and more efficient for foreign investors." The code will also improve local content, increasing the extent to which the output of the extractive industry sector generates further benefits for the economy. Finally, particular attention will be paid to environmental protection to ensure the preservation of the unique biodiversity of the island. As summarized by Rasoanaivo: "Oil companies will benefit from a modernized regulatory framework inspired by the best practices in other countries but adapted to the specificities of Madagascar."

> "Oil companies will benefit from a modernized regulatory framework inspired by the best practices in other countries but adapted to the specificities of Madagascar."
> **Bonaventure Rosanaivo**, CEO of OMNIS

A Country Strategic feature (countrystrategic.com)
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Under the Sea

The Vulnerability of the Commons

Robert Martinage

In recent years, U.S. officials have grown increasingly fearful of a massive cyberattack, one capable of crippling infrastructure and crashing markets. In 2010, William Lynn, then deputy secretary of defense, wrote in these pages that cyberspace was "just as critical to military operations as land, sea, air, and space." As defense secretary, Leon Panetta warned of a "cyber–Pearl Harbor." And in 2013, James Clapper, the director of national intelligence, put cyberattacks at the top of his annual list of transnational threats.

Yet as Washington has poured billions of dollars into shoring up its defenses in the virtual world, it has largely ignored the physical infrastructure that allows cyberspace to exist in the real one. Today, roughly 95 percent of intercontinental communications traffic—e-mails, phone calls, money transfers, and so on—travels not by air or through space but underwater, as rays of light that traverse nearly 300 fiber-optic cables with a combined length of over 600,000 miles. For the most part, these critical lines of communication lack even basic defenses, both on the seabed and at a small number of poorly guarded landing points. And a mounting tally of small-scale breaches points to the potential for large-scale damage.

Washington's neglect of undersea infrastructure extends beyond cables to an increasingly important source of global oil and gas supply: deep-water drilling. Today, offshore rigs in the Gulf of Mexico account for some 25 percent of total U.S. oil and gas production—a figure the Department of Energy predicts could reach 40 percent by 2040. Outside the United States, global production from deep-water wells has risen from 1.5 million barrels per day in 2000 to over six million barrels per day in 2014. As the infrastructure for offshore

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drilling grows more sophisticated and widespread, it is also becoming more susceptible to attack, with the potential consequences exceeding those of the giant 2010 oil spill in the Gulf of Mexico.

Although human activities underwater are regulated by numerous international bodies, no single entity has both the authority and the ability to take the lead. In the United States, the Coast Guard is responsible for enforcing security plans at the largest offshore energy platforms and protecting underwater structures at some ports. Yet no government agency or department has responsibility for the defense of the country's submerged energy and cable infrastructure. As a consequence, two of the most critical sectors of the U.S. economy—communications and energy—could easily fall prey to a well-organized terrorist plot or a foreign attack. Fortunately, Washington still has time to correct course.

WHAT LIES BENEATH

British engineers laid the first submarine telegraph line across the English Channel in 1850. Eight years later, an effort backed by the American financier Cyrus Field bridged the Atlantic, linking Ireland to Newfoundland with a telegraph wire that eventually transmitted almost seven words per minute. After Alexander Graham Bell invented the telephone in 1876, the first underwater telephone cable soon followed, carrying conversations beneath the San Francisco Bay.

Although the number of cables proliferated, their speed and capacity stagnated until the introduction of two key advances during the 1920s and 1930s: coaxial copper cores and polyethylene insulation, which allowed individual cables to carry multiple voice channels and provided improved durability. In subsequent decades, capacity soared, rising from 36 voice channels per cable in the 1950s to around 4,000 in the 1970s. Nevertheless, installation and maintenance costs remained high, making satellites decidedly more attractive for carrying telephone traffic. Until the 1980s, satellites could provide almost ten times as much capacity as submarine cables while requiring only one-tenth as large an investment.

But then fiber-optic technology revolutionized global communications. In 1988, a consortium of British, French, and U.S. telecommunications firms laid the first fiber-optic cable across the Atlantic. TAT-8, as the line was called, could carry 40,000 telephone calls simultaneously—an order of magnitude greater than most existing coaxial cables could handle and at a fraction of the previous cost. Today's fiber-optic cables can transmit an amount of data equivalent to the entire printed collection of the Library of Congress in about 20 seconds.

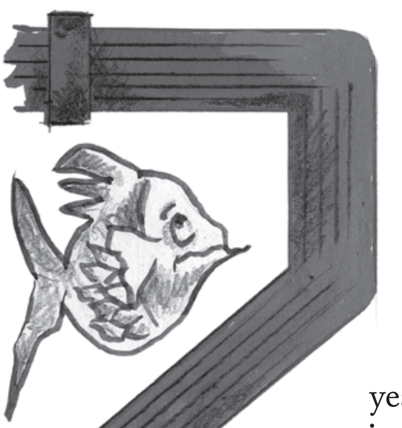
As a result, companies, governments, and individuals can send and receive more data than ever before. In 1993, Internet users transmitted around 100 terabits of data in a year; today, they send about 150 terabits every second. And this number is expected to exceed 1,000 terabits by 2020, fueled in large part by the expansion of cellular networks in Africa, Asia, and the Middle East.

Nearly all that data will travel along the seabed. Imagine, then, how damaging a determined attack on undersea infrastructure could be. One need only consider the destruction possible from natural causes and inadvertent interference. In 2006, an undersea earthquake near Taiwan snapped nine cables. It took 11 ships 49 days to finish repairs, while China, Japan, the Philippines, Singapore, Taiwan, and Vietnam lost critical communication links, disrupting regional banking, markets, and trade. In 2007, Vietnamese fishermen seeking to salvage copper from a defunct coaxial cable pulled up active lines instead, disrupting Vietnam's communications with Hong Kong and Thailand for nearly three months and requiring repairs that cost millions. Given the scarcity of equipment and personnel, it could take months, if not years, for the United States to recover from a large-scale, coordinated assault. Attackers wouldn't even need to target U.S. assets, since U.S. traffic flows through more than a dozen other countries that serve as major hubs for the global undersea cable network.

Some 95 percent of intercontinental communications travel underwater.

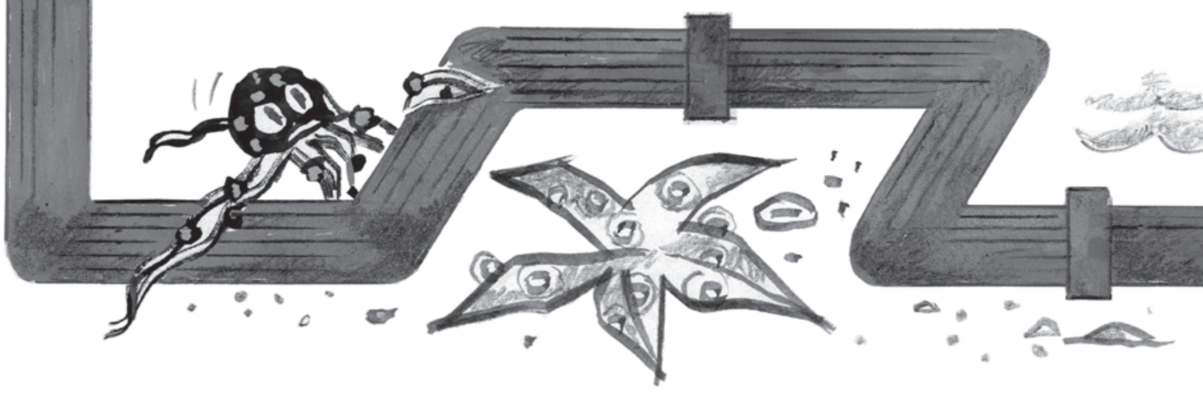
Much of this infrastructure allows the global economy to function. Every day, SWIFT, the Society for Worldwide Interbank Financial Telecommunication, transmits some 20 million messages to more than 8,000 banking organizations, security institutions, and corporate customers in nearly 200 countries, reconciling trillions of dollars' worth of assets across global financial markets. Intercontinental Exchange, which operates a global network of currency exchanges and clearing-houses, typically processes over ten million contracts each day, covering the energy, commodity, financial, and equity derivatives markets. Without the undersea fiber-optic network, this type of electronic banking and commerce simply could not happen. And in the event that the cable system shut down, millions of transactions would be cut short.

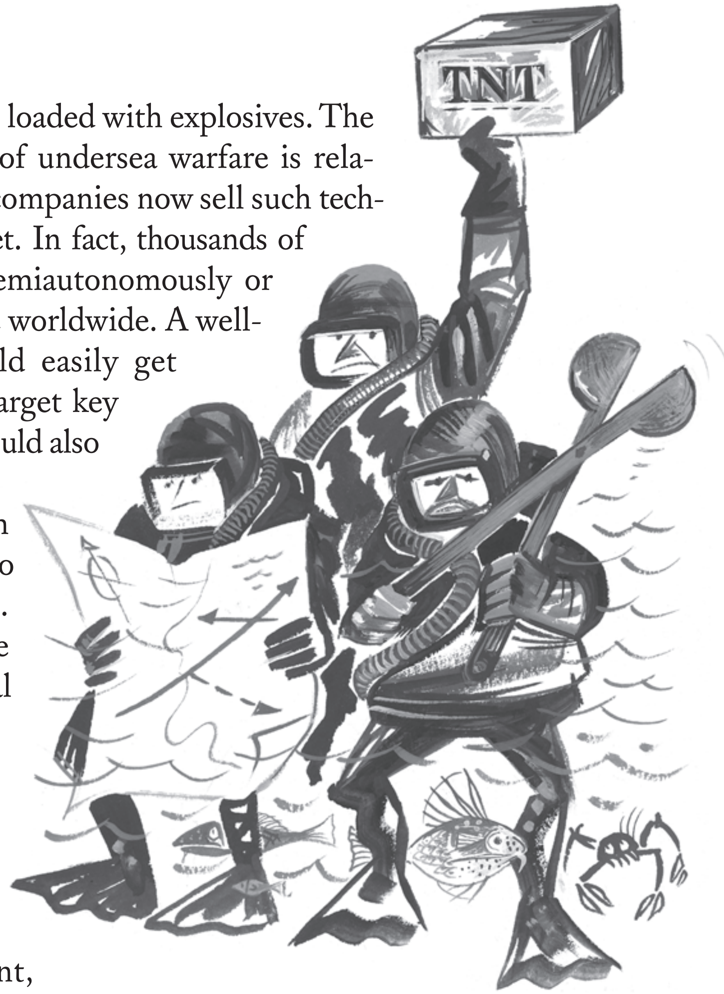
Thanks to a number of factors, moreover, a major attack turns out to be surprisingly feasible. For one, fiber-optic cables, which are typically one to two inches thick, generally follow routes that avoid high-traffic shipping lanes, fishing areas, and sensitive environmental locations. Although that helps minimize the risk of accidental damage, it means that cables tend to land at only about two dozen major sites around the world. Of the roughly 40 major submarine cables that connect the United States to the world's global undersea communications network, nearly all make landfall at narrow stretches of coast in California, Florida, New Jersey, New York, and Oregon. On the East Coast, nearly every transatlantic cable comes ashore within only tens of miles of one another in the New York–New Jersey area.



To make matters worse, maps of many cable routes are easily accessible to the public. Every year, operators report around 100 to 150 cases of major damage, roughly 70 percent of which are the result of human activities such as fishing and anchoring. That's why submarine cable locations appear on nautical charts. Some cables even have acoustic beacons to make them easier to find. Information about global cable routes, meanwhile, is available on the Internet, making it easy to discern a given country's weak spots.

With detailed coordinates at their fingertips, foreign militaries could target U.S. cables using remote-controlled submarines equipped



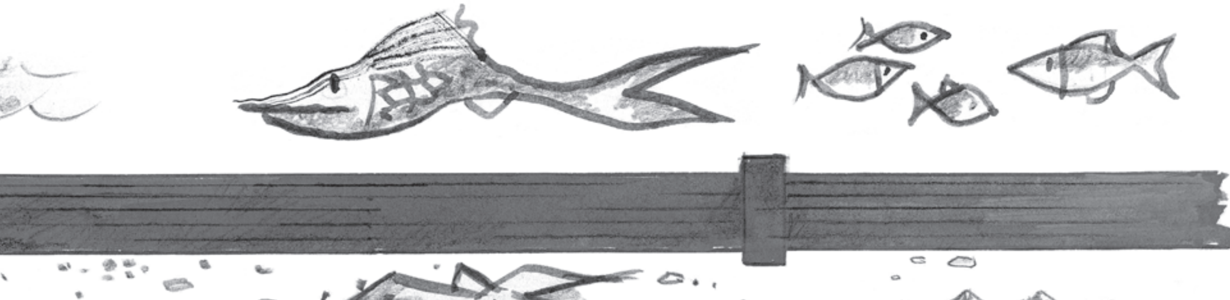


with high-resolution sonar and loaded with explosives. The barrier to entry for this type of undersea warfare is relatively low, as several different companies now sell such technology on the consumer market. In fact, thousands of undersea vehicles, operated semiautonomously or remotely, are already in service worldwide. A well-financed terrorist group could easily get its hands on one in order to target key cables and junction points. It could also opt for brute force, using fishing trawlers equipped with deep-sea grappling hooks to maul cables in shallower waters.

The global undersea cable network does have a good deal of spare capacity, enabling the swift rerouting of global communications traffic in the event of an emergency like the 2006 Taiwan earthquake. Yet a well-planned attack could take this into account, targeting multiple intercontinental submarine cables, shore-based terminals, and coastal connection points. In the attack's aftermath, service providers would likely struggle to cooperate, scrambling to repair their own networks by hoarding skilled personnel and scarce hardware.

CRUDE AWAKENING

The first offshore oil rigs appeared in California in 1896, not long after the first undersea telephone lines were put in place. But the



industry stalled for decades. In the late 1940s, drilling came to a virtual standstill owing to disputes between state and federal authorities over the power to issue leases for oil exploration. But in 1953, U.S. President Dwight Eisenhower, who had campaigned on the issue, passed legislation empowering states to grant leases for activity up to three (and in some cases nine) nautical miles from the coastline and the U.S. Department of the Interior to sign off on drilling in areas beyond state jurisdiction. At first, U.S. offshore oil production rose steadily, from 133,000 barrels per day in 1954 to 1.7 million in 1971. Following a slew of new regulations in the 1970s and a steep decline in oil prices in the 1980s, however, growth slowed once again.

As interest waned, a dramatic shift was quietly under way in the Gulf of Mexico. New platform and drilling technologies were making it affordable to tap rich reserves of oil and gas at greater depths. Whereas an average-performing well in shallow water typically yielded a few thousand barrels of oil per day, deep-water fields provided upward of 10,000 barrels. Shell's Auger field, which the firm discovered in 1987, eventually reached a maximum output of over 100,000 barrels. Using newly available three-dimensional seismologic tools, other energy companies, including Amoco, British Petroleum, Conoco, Exxon, and Mobil, also took part in the deep-water hunt.

Undersea cable cutting was once a regular part of warfare.

Like the global undersea cable network, the United States' deep-water drilling infrastructure is rapidly expanding while remaining almost entirely undefended. Drilling operations around the world, whether in the Bay of Bengal or the South China Sea, face similar risks. What's more, as offshore energy infrastructure grows more complex, it is also developing new weaknesses. Today, a single production platform might draw on several undersea fields tens of miles apart. Each of those fields might have multiple wells linked by remotely controlled pipelines—potential targets for a hostile force. These mega-platforms are becoming increasingly important sources of supply: although the Gulf of Mexico is home to over 4,000 platforms, roughly one percent of them produce nearly 75 percent of the region's total output.

A major attack on deep-water drilling infrastructure could have many immediate effects, but two stand out. First, the environmental

damage could be devastating. Residents around the Gulf of Mexico are still feeling the repercussions of the 2010 explosion on BP's Deepwater Horizon rig, and the cleanup costs have already reached into the tens of billions. Yet Deepwater Horizon was only one of thousands of production platforms and drilling rigs in the Gulf of Mexico, many of which belong to vast networks of undersea wells, pumps, and valves connected by thousands of miles of pipeline.

Second, an attack could cause a major disruption in global energy supplies. About one-third of global oil production now occurs offshore, with the largest fields in the Persian Gulf and the Caspian Sea. Onshore facilities along the Gulf Coast that are connected to sea-based ports by submarine pipelines account for over 40 percent of total U.S. oil-refining capacity and over 30 percent of U.S. natural-gas-processing capacity. Both in the United States and elsewhere, oil companies have increasingly ventured into deep and ultradeep water (greater than 1,000 and 5,000 feet, respectively). Over the past decade, global investment in offshore oil and gas infrastructure has steadily increased, from about $100 billion to over $300 billion annually. The estimated volume of newly discovered oil and gas reserves in deep water now exceeds that onshore and in shallow water. And by 2035, forecasts suggest, deep-water wells will account for 11 percent of total global production, up from six percent in 2013.

DRILLING DOWN

Submarine infrastructure is already vulnerable to attack and will become even more so in the coming years, especially as undersea vehicles grow more advanced and accessible. Unprotected cables and energy infrastructure could provide adversaries with all kinds of opportunities to gain the upper hand. Hostile forces could, for instance, plant explosive charges in sensitive locations and threaten to pull the trigger. Or they could set off explosions without warning, throwing markets into chaos and disrupting military command-and-control systems. State and nonstate actors could conduct anonymous attacks or act under a false flag. Attributing responsibility for a covert attack would prove challenging, making deterrence extremely difficult. Such moves wouldn't be unprecedented, of course: before undersea fiber optics dominated global communications, cable cutting was a regular part of warfare. In 1914, the United Kingdom severed all five of Germany's undersea cables in the English Channel the day after declaring war, and belligerents regularly snipped enemy cables during World War II. But today, it would be more difficult to sever fiber-optic lines without affecting a much larger and more interdependent system—making a potential attack all the more damaging.

Washington, meanwhile, has been slow to protect this Achilles' heel. The Coast Guard, a component of the U.S. Department of Homeland Security, is responsible for maritime security, so protecting undersea infrastructure would presumably fall under its brief. But the agency remains narrowly focused on port security and, to a lesser degree, surface platforms on the continental shelf. It has fielded underwater surveillance systems to detect intruders and operates a small number of unmanned undersea vehicles—but mostly to protect ports, as well as to inspect pier structures and ship hulls.

The United States must do better. Although no panacea exists for protecting undersea infrastructure, Washington can and should adopt a number of concrete measures to reduce the likelihood of an attack and the consequences if one occurs. Although it would make sense for the Coast Guard to take on this mission, the agency currently lacks the manpower and expertise to do so effectively. The U.S. Navy, by contrast, has the requisite personnel and know-how but lacks law enforcement authority. Washington should therefore task the Coast Guard and the navy to work jointly, with new funding specifically tied to securing undersea infrastructure.

As a first step, the United States could declare protection zones within its existing exclusive economic zone—the maritime area in which Washington has special exploration and resource-exploitation rights—above critical undersea infrastructure, prohibiting unauthorized loitering and high-risk activities such as dredge fishing and anchoring. Some countries, including Australia and New Zealand, have already banned bottom trawling and anchoring near important fiber-optic lines. Given the vast expanse of ocean that would need to be monitored, enforcing such a ban would be difficult. But amending existing regulations would help. U.S. laws currently require certain types of large ships within "all navigable waters of the United States" to publicly broadcast their speed and direction. Authorities can use that information to monitor boats that are loitering too long in waters above or near critical undersea infrastructure. But smaller ships not covered by those rules can still operate huge winches capable of handling heavy grappling hooks or cranes that launch and retrieve undersea vehicles. Accordingly, Washington should require all ships with the capacity to mount an undersea assault to broadcast their positions. Since attackers might conceal their positions, the Coast Guard would also need to monitor the protected zones with coastal radar, surveillance aircraft, unmanned aerial vehicles, and surface patrols—a daunting and expensive proposition. To minimize costs, the agency could prioritize undersea infrastructure of the highest value, focusing on narrow fiber-optic cable corridors and a relatively small number of mega-platforms and deep-water ports.

With the exception of crude, grappling-hook-style attacks on the open sea and scuba-diver assaults in shallow water, nearly all other strikes on undersea infrastructure would require underwater vehicles. Given how dark it gets at low depths, those vehicles typically use high-frequency sonar to guide their course. Industry could be required to place relatively cheap sensors that detect sonar frequencies near key undersea infrastructure and along cable routes. If the sensors were tripped, they could alert nearby Coast Guard or navy vessels. To provide additional early warning capabilities, Washington could place acoustic sensors on the seabed or equip unmanned underwater vehicles to tow them in high-risk areas.

In addition to interdicting hostile vehicles, the U.S. government could increase the physical barriers in their way. To some degree, long stretches of submarine cables on the continental shelf already enjoy physical protection: many are buried underneath three to ten feet of seabed out to a water depth of about 5,000 feet. Although that layer prevents damage from dredge fishing and anchoring, it does not necessarily protect against explosives or physical attacks, so it may make sense to bury the cables at even greater water depths. And where pipelines from multiple deep-water oil fields come together, even rudimentary fences—metal nets strung between posts secured to the seabed—could do the trick. Since such barriers could stand in the way of routine inspections and maintenance, they would need to be used selectively.

Finally, Washington needs to prepare for the fallout if an attack succeeds. Undersea equipment is difficult to replace, so building redundant cable lines today could save billions of dollars in the future. To minimize the risk that a single attack could trigger a systemwide failure, the federal government could mandate new cable landing sites and offer tax incentives to firms that invest in redundant cable systems and backup hardware. Similarly, encouraging firms to build more deep-water ports—currently, oil and natural gas tankers rely on just a few—would make it more difficult for an attack on some of them to disrupt energy markets. There are also ample opportunities to cut red tape by streamlining the burdensome regulations that govern construction on the seabed. At the federal level, the permitting process can involve more than a half dozen agencies and take anywhere from a few weeks to a few years to complete. And pursuing a new global accord to monitor, protect, and repair transoceanic submarine cables would allow Washington to share the burden of repairing those cables in times of crisis.

Such policies would not be foolproof, but they would make it harder for an adversary to launch a successful attack. Their cost would be relatively low in comparison to the potential losses that would result from a global communications traffic jam or a massive oil spill. Yet the greatest barrier to reform is not funding; it is invisibility. Fiber-optic cables and offshore oil rigs work well and out of sight, and consumers tend to treat such critical infrastructure like oxygen, acknowledging its importance in theory but assuming its continued presence. If taken away, however, the effects would surely prove suffocating; minimizing the chances of a worst-case scenario, however remote they might seem, would be well worth the investment.

Darkness Invisible

The Hidden Global Costs of Mental Illness

Thomas R. Insel, Pamela Y. Collins, and Steven E. Hyman

Four years ago, a team of scholars from the Harvard School of Public Health and the World Economic Forum prepared a report on the current and future global economic burden of disease. Science and medicine have made tremendous progress in combating infectious diseases during the past five decades, and the group noted that noncommunicable diseases, such as heart disease and diabetes, now pose a greater risk than contagious illnesses. In 2010, the report's authors found, noncommunicable diseases caused 63 percent of all deaths around the world, and 80 percent of those fatalities occurred in countries that the World Bank characterizes as low income or middle income. Noncommunicable diseases are partly rooted in lifestyle and diet, and their emergence as a major risk, especially in the developing world, represents the dark side of the economic advances that have also spurred increased longevity, urbanization, and population growth. The scale of the problem is only going to grow: between 2010 and 2030, the report estimated, chronic noncommunicable diseases will reduce global GDP by $46.7 trillion.

These findings reflected a growing consensus among global health experts and economists. But the report did contain one big surprise: it predicted that the largest source of those tremendous future costs would be mental disorders, which the report forecast would account for more than a third of the global economic burden of noncommunicable diseases by 2030. Taken together, the direct economic effects of

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mental illness (such as spending on care) and the indirect effects (such as lost productivity) already cost the global economy around $2.5 trillion a year. By 2030, the team projected, that amount will increase to around $6 trillion, in constant dollars—more than heart disease and more than cancer, diabetes, and respiratory diseases combined.

These conclusions were dramatic and disturbing. Yet the report had virtually no impact on debates about public health policy, mostly because it did not manage to dislodge persistent and harmful misperceptions about mental illness. In wealthy countries, most people continue to view mental illness as a problem facing individuals and families, rather than as a policy challenge with significant economic and political implications. Meanwhile, in low-income and middle-income countries and within international organizations, officials tend to view mental illness as a "First World problem"; according to that view, worrying about mental health is a luxury that people living in severe poverty or amid violent conflict cannot afford.

In reality, in countries of all levels of wealth and development, mental illness affects almost every aspect of society and the economy. And far from lacking relevance or urgency in poor and war-torn countries, mental illness often contributes to the very dysfunctions that plague such places. Moreover, breakthroughs in therapy and treatment have significantly improved the efficacy—and lowered the cost—of caring for people who suffer from mental illness, even in places that have traditionally lacked access to mental health services. Policymakers, mental health professionals, and advocates for the mentally ill should take advantage of this progress. To do so, they first must change the way people—including they themselves—think about and talk about mental illness.

BRAIN DRAIN

People underestimate the costs and significance of mental illness for many reasons. At the most basic level, policymakers and public health officials tend to view mental illness as fundamentally different from other medical problems. But just like other diseases, mental illnesses are disorders of a bodily organ: the brain. In this respect, they are no different from other noncommunicable diseases.

Most people also do not realize just how common mental disorders are, in part because such illnesses are stigmatized and thus often hidden. The U.S. Department of Health and Human Services estimates that

The hidden epidemic: in a mental hospital in Shanxi Province, China, October 2010

REUTERS / STRINGER

in 2012, 43.7 million Americans over the age of 18 suffered from some kind of mental disorder—18.6 percent of the country's adult population. Nearly ten million of those people, or 4.1 percent of adult Americans, struggled with serious mental illnesses, such as psychotic disorders. Even in the United States, where treatment for such problems is relatively accessible, many people do not seek or receive care until their disorders have become chronic and disabling, a length of time that one recent study found to be 11 years, on average.

Mental disorders are also far more disabling than most people realize, often preventing the afflicted from working, studying, caring for others, producing, and consuming. In a 2012 report on the global economic burden of disease, the World Health Organization noted that mental illnesses and behavioral disorders account for 26 percent of the time lost to disability—more than any other kind of disease.

The impact of mental illnesses is magnified by the fact that such disorders afflict mostly young people, in contrast to other chronic noncommunicable diseases, such as heart disease or cancer, which generally appear later in life. A 2005 study conducted by researchers at Harvard Medical School, the University of Michigan, and the National Institute of Mental Health found that 75 percent of adults suffering from mental illness reported that their symptoms began before they turned 25. The first signs of psychosis in people with schizophrenia typically arrive between the ages of 18 and 23; autism begins to affect people before the age of three. Such early onset explains why mental disorders represent by far the largest source of disability—and hence lost productivity—for people between the ages of 15 and 44, a crucial period in life during which people transition from school to work, find partners, start families, and build careers.

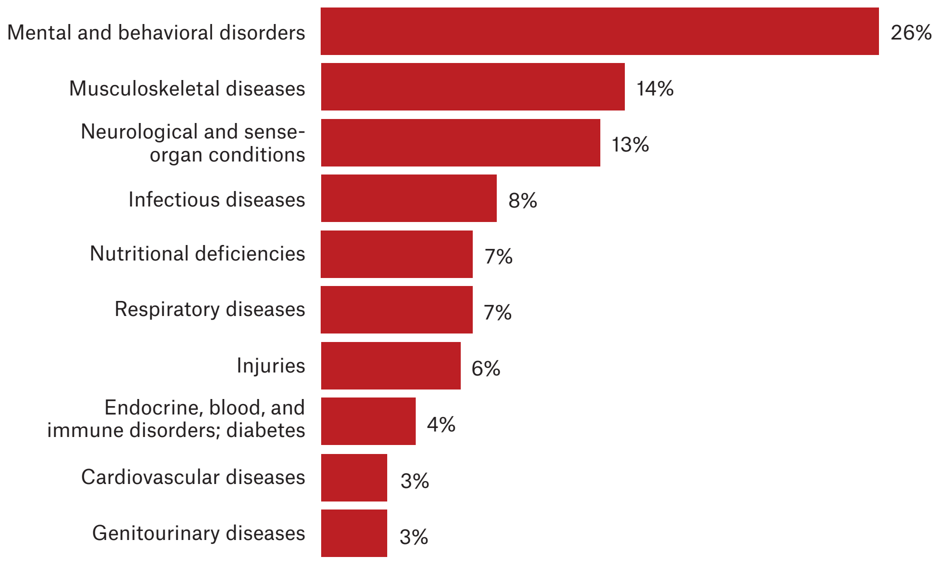
Another little-understood aspect of mental disorders is that they are not merely disabling; they are deadly. Although many factors lead people to end their own lives, the American Foundation for Suicide Prevention estimates that mental illness plays a role in 90 percent of suicides. The World Health Organization estimates that some 800,000 people commit suicide every year, 75 percent of them in low-income and middle-income countries. Globally, more than twice as many people die from suicide as die from homicide each year, and suicide is the second-largest source of mortality for people aged 15 to 29, topped only by traffic accidents.

Finally, mental disorders act as a gateway to a range of other costly public health problems. Suffering from a mental illness increases one's chances of contracting HIV and of developing heart disease, pulmonary diseases, and diabetes; it also raises one's risk of homelessness, poverty, and institutionalization, including imprisonment—all of which represent further burdens on society.

ATTENTION DEFICIT

Despite these profound costs, mental illness receives surprisingly little attention and resources from governments and international organizations. Globally, annual spending on mental health amounts to less than $2 per person; on average, low-income countries spend less than 25 cents per person. The median amount that countries spend on mental health equals less than three percent of the median amount that they spend on all health care, even though mental illness accounts for over 20 percent of all health-care costs. And the poorer the country, the worse the problem: the World Health Organization estimates that the majority of countries at low and lower-middle levels of income devote less than two percent of their health budgets to treating mental disorders. In such countries, up to 85 percent of people with severe mental illness receive no treatment at all.

Losing It
Top Ten Sources of Time Lost to Disability Globally From All Medical Causes, by Percentage



SOURCE: World Health Organization, 2012.

Even wealthy countries devote few resources to mental disorders relative to the economic costs they impose. According to the Centre for Economic Performance at the London School of Economics, mental illness costs the British economy around 70 billion pounds in lost productivity and health-care expenditures every year and accounts for 23 percent of the burden that disease places on the United Kingdom, and yet the National Health Service devotes only 13 percent of its expenditures to mental disorders. Nor are international organizations any better attuned to the problem: mental illness went completely unmentioned in the UN's Millennium Development Goals (MDGs), and until recently, most of the major organizations addressing global health and disaster relief paid little attention to the mental health needs of the populations they served.

Owing to this lack of attention and awareness, the costs of treating mental illness often fall outside health-care sectors. In the United States, for instance, most states have almost completely dismantled the system of mental hospitals that once oversaw care for the mentally ill. As a result, Americans with serious mental illness are ten times as likely to be imprisoned as to be in hospitals. In a sense, through welfare programs, social services, and jails and prisons, many countries wind up spending on the effects of mental illness—such as unemployment, homelessness, and incarceration—rather than the underlying causes. In the United States, such indirect costs represent two-thirds of the economic burden of mental health problems—a figure that makes sense considering that 30 percent of the country's chronically homeless and more than 20 percent of the people incarcerated in the United States suffer from a mental disorder.

A FIRST WORLD PROBLEM?

Compared with wealthy countries, low-income and middle-income countries face an even starker challenge when it comes to mental health: a lack of expertise and a shortage of professionals. Residents of wealthy countries enjoy a relatively high concentration of mental health specialists: high-income countries have, on average, nine psychiatrists for every 100,000 people. But almost half of the world's population lives in countries where, on average, there is only one psychiatrist for every 200,000 people; in many African countries, there is only one psychiatrist per every one million people.

In the short term, these numbers are not likely to improve much. But people suffering from mental illness in poorer places could benefit from a relatively new trend in the field: the so-called task-sharing approach, in which professionals train a range of providers—from nurses and social workers to peers and family members—to care for those with mental illness. Controlled trials have already demonstrated the promise this approach holds, even in places with few established mental health resources. In a report published in *The New England Journal of Medicine* in 2013, a team led by Judith Bass, a mental health specialist at Johns Hopkins University, described a controlled trial it had carried out in 2011 involving around 400 women in 16 villages in the Democratic Republic of the Congo who had suffered sexual violence and exhibited symptoms of posttraumatic stress disorder, depression, or anxiety. To test the efficacy of a task-sharing approach to caring for these women, clinical experts from the United States spent five or six days training local women in how to provide cognitive-processing therapy, which focuses on helping people to stop avoiding their problems and instead solve them by changing their behavior.

The local assistants used that approach to treat one set of the victims of violence, 70 percent of whom suffered from symptoms of depression and anxiety disorders before the trial began. A control group of other victims, 83 percent of whom were experiencing such symptoms, received only individual support from the assistants. The results were remarkable: after six months, only ten percent of the women who had received the cognitive-processing therapy still appeared to be suffering from depression or anxiety disorders, compared with 42 percent of those who had received just individual support.

In a 2008 article in *The Lancet*, a team of researchers reported similar results from a controlled trial in rural Pakistan, in which the team trained community health workers to provide a form of treatment resembling cognitive-behavioral therapy to women struggling with prenatal or postpartum depression. Women in 20 rural areas received treatment from the trainees; a control group of women in 20 other areas received care from workers who had not been trained. When the treatment period ended, only 23 percent of the women who had received care from the trained workers showed symptoms consistent with prenatal or postpartum depression, compared with 53 percent of those in the control group.

The results in Congo and Pakistan suggest that task-sharing approaches can produce results equal to or even better than those achieved by such treatments in wealthy countries, where they have been used, to cite one example, to care for U.S. military veterans struggling with posttraumatic stress disorder. And in both Congo and Pakistan, women who received psychotherapeutic treatment showed not only substantial decreases in symptoms but also improvements in overall health and well-being. Nor were they the only beneficiaries: the women who received such treatments in Pakistan were also more likely to obtain crucial vaccines for their children.

PAGING BILL GATES

Another obstacle hindering mental health care in the developing world is that many donors, public health specialists, and government officials believe that mental illness cannot be addressed with the kinds of low-cost, simple interventions that have made such a difference in the fight against other diseases in poor countries—think of polio vaccines and bed nets to prevent the spread of malaria, for example. In fact, similarly safe, effective, and inexpensive treatments exist for the most prevalent mental disorders.

Medications that relieve the most disabling symptoms of depression, psychosis, anxiety, and bipolar disorder have been available for five decades and now exist in relatively inexpensive generic formulations. A 2012 World Health Organization study showed that among 58 low- and middle-income countries, a typical course of such psychiatric medications costs, on average, approximately four percent of an individual's daily income. Although such treatments must be prescribed and managed by medical professionals, the paucity of psychiatrists in poorer countries would not necessarily present an obstacle to making psychiatric medications more widely available. After all, even in the developed world, most antidepressants and anti-anxiety medications are prescribed not by psychiatrists but by primary-care practitioners.

But perhaps the most promising new treatments for the most common mood and anxiety disorders have emerged thanks to technological innovation. As the Internet and mobile technology have spread, psychological treatments are no longer limited to those who can visit a psychotherapist's office. More than five billion people all over the world now have access to mobile devices that could allow them to receive psychotherapeutic interventions ranging from text messages that provide self-help strategies to computer games that incentivize positive changes in behavior. A group of psychiatric researchers in Australia recently found that a Web-based program reduced depressive and anxiety symptoms by allowing users to complete interactive modules on topics such as "managing fear and anxiety" and "tackling unhelpful thinking." And even in places where few people have smartphones, the spread of basic cellular service means that providers can still reach far more potential patients by phone than ever before.

OUT OF THE SHADOWS

Even if donors, international organizations, and governments came to better understand the massive costs associated with mental illness and the feasibility of treatments, genuine progress would still rely on a number of systemic changes. First, there is a basic need for increased awareness of the scope of the problem. In rich and poor countries alike, mental health advocates must do a better job of explaining to officials and the public the true costs of mental illness, encouraging people to understand how the problem affects not only individuals and families but also entire communities and economies. "No health without mental health" has become a rallying cry for reformers, but such slogans frequently fall on deaf ears. Mental health advocates could win more allies within the medical profession by drawing attention to the fact that improved mental health leads to better overall health.

Second, countries at every economic level must better integrate mental health care into their broader health-care systems. In wealthy countries, two simple steps would help: preparing more primary-care providers to treat mental disorders and creating incentives for mental health specialists and general medical practitioners to share facilities and establish partnerships, which would make it easier for people to get psychiatric and psychological care. In poorer countries, one step toward better integration would be to give community health workers, who already monitor basic health needs, the ability to screen for common mental disorders, as well. For example, nurses who help patients stick to their HIV medication regimens could incorporate mental health screening into their routines.

Finally, the international community needs to make a formal commitment to reducing the global economic burden of mental illness. Although mental illness affects the achievement of several of the UN's MDGs, such as empowering women, reducing child mortality, improving maternal health, and reversing the spread of HIV, the goals made no mention of mental health. Now, the process of drafting successors to the MDGs, the so-called Sustainable Development Goals, is well under way. Mental health advocates involved in the process are pushing for the establishment of specific targets, including a ten percent reduction in suicide by 2020 and a 20 percent increase in treatment for severe mental disorders by the same date. These are achievable goals, but meeting them will require political will, public and private investment, and coordination among the health, financial, social-service, and educational sectors.

Such steps will go a long way toward reducing the damage mental disorders inflict on societies and economies all over the world. But for such measures to succeed, policymakers and experts must first pull mental illness out of the shadows and into the center of debates about global public health.

The G-Word

The Armenian Massacre and the Politics of Genocide

Thomas de Waal

One hundred years ago this April, the Ottoman Empire began a brutal campaign of deporting and destroying its ethnic Armenian community, whom it accused of supporting Russia, a World War I enemy. More than a million Armenians died. As it commemorates the tragedy, the U.S. government, for its part, still finds itself wriggling on the nail on which it has hung for three decades: Should it use the term "genocide" to describe the Ottoman Empire's actions toward the Armenians, or should it heed the warnings of its ally, Turkey, which vehemently opposes using the term and has threatened to recall its ambassador or even deny U.S. access to its military bases if the word is applied in this way? The first course of action would fulfill the wishes of the one-million-strong Armenian American community, as well as many historians, who argue that Washington has a moral imperative to use the term. The second would satisfy the strategists and officials who contend that the history is complicated and advise against antagonizing Turkey, a loyal strategic partner.

No other historical issue causes such anguish in Washington. One former State Department official told me that in 1992, a group of top U.S. policymakers sat in the office of Brent Scowcroft, then national security adviser to President George H. W. Bush, and calculated that resolutions related to the topic were consuming more hours of their time with Congress than any other matter. Over the years, the debate has come to center on a single word, "genocide," a term that has acquired such power that some refuse to utter it aloud, calling it "the G-word"

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instead. For most Armenians, it seems that no other label could possibly describe the suffering of their people. For the Turkish government, almost any other word would be acceptable.

U.S. President Barack Obama has attempted to break this deadlock in statements he has made on April 24, the day when Armenians traditionally commemorate the tragedy, by evoking the Armenian-language phrase *Meds Yeghern*, or "Great Catastrophe." In 2010, for example, he declared, "1.5 million Armenians were massacred or marched to their death in the final days of the Ottoman Empire. . . . The *Meds Yeghern* is a devastating chapter in the history of the Armenian people, and we must keep its memory alive in honor of those who were murdered and so that we do not repeat the grave mistakes of the past."

Armenian descendants seeking recognition of their grandparents' suffering could find everything they wanted to see there, except one thing: the word "genocide." That omission led a prominent lobbying group, the Armenian National Committee of America, to denounce the president's dignified statement as "yet another disgraceful capitulation to Turkey's threats," full of "euphemisms and evasive terminology."

In a sense, Obama had only himself to blame for this over-the-top rebuke. After all, during his presidential campaign, he had, like most candidates before him, promised Armenian American voters that he would use the word "genocide" if elected, but once in office, he had honored the relationship with Turkey and broken his vow. His 2010 address did go further than those of his predecessors and openly hinted that he had the G-word in mind when he stated, "My view of that history has not changed." But if he edged closer to the line, he stopped short of crossing it.

HISTORY AS BATTLEGROUND

Back in 1915, there was nothing controversial about the catastrophe suffered by ethnic Armenians in the Ottoman Empire. The Young Turkish government, headed by Mehmed Talat Pasha and two others, which ruled what was left of the empire, had entered World War I the year before on the side of Germany, fighting against its longtime foe Russia. The leadership accused Christian Armenians—a population of almost two million, most of whom lived in what is now eastern Turkey—of sympathizing with Russia and thus representing a potential fifth column. Talat ordered the deportation of almost the entire people to the arid deserts of Syria. In the process, at least half of the men were killed by Turkish security forces or marauding Kurdish tribesmen. Women and children survived in greater numbers but endured appalling depredation, abductions, and rape on the long marches.

Leading statesmen of the time regarded the deportation and massacre of the Armenians as the worst atrocity of World War I. One of them, former U.S. President Theodore Roosevelt, argued in a 1918 letter to the philanthropist Cleveland Dodge that the United States should go to war with the Ottoman Empire "because the Armenian massacre was the greatest crime of the war, and failure to act against Turkey is to condone it."

Some of the best sources on the horrific events were American. Because the United States had remained neutral during the war's early years, dozens of its diplomatic officials and missionaries in the Ottoman Empire had stayed on the ground and witnessed what happened. In May 1915, Henry Morgenthau, the U.S. ambassador in Turkey, delivered a démarche from the Ottoman Empire's three main adversaries—France, Russia, and the United Kingdom—that denounced the deportation of the Armenians. The statement condemned the Ottoman government for "crimes against humanity," marking the first known official usage of that term. In July 1915, Morgenthau cabled to Washington, "Reports from widely scattered districts indicate systematic attempts to uproot peaceful Armenian populations." These actions, he wrote, involved arbitrary arrests, torture, and large-scale deportations of Armenians, "accompanied by frequent instances of rape, pillage, and murder, turning into massacre."

At the other corner of the Ottoman Empire, Jesse Jackson, the U.S. consul in Aleppo, watched as pitiful convoys of emaciated Armenians arrived in Syria. In September 1916, Jackson sent a cable to Washington that described the burial grounds of nearly 60,000 Armenians near Maskanah, a town in today's northern Syria: "As far as the eye can reach mounds are seen containing 200 to 300 corpses buried in the ground pele mele, women, children and old people belonging to different families."

By the end of World War I, according to most estimates of the time, around one million Armenians had died. Barely one-tenth of the original population remained in its native lands in the Ottoman Empire. The rest had mostly scattered to Armenia, France, Lebanon, and Syria. Many, in ever-greater numbers over the years, headed to the United States.

History boys: Armenians demonstrating against Turkey in Athens, April 2013

REUTERS / YANNIS BEHRAKIS

From the 1920s on, the events of the Great Catastrophe became more a matter of private grief than public record. Ordinary Armenians concentrated on building new lives for themselves. The main political party active in the Armenian diaspora, the Armenian Revolutionary Federation (which had briefly ruled an independent Armenia in 1918–20, before it became a Soviet republic), expended most of its efforts fighting the Soviet Union rather than Turkey. Only in the 1960s did Armenians seriously revive the memory of their grandparents' suffering as a public political issue. They drew inspiration from "Holocaust consciousness," the urge for collective remembrance and action that brought together the Jewish people after the 1961 trial of Adolf Eichmann for Nazi war crimes.

The Republic of Turkey, founded by Mustafa Kemal in 1923, was a state rooted in organized forgetting—not only of the crimes committed in the late Ottoman period against Armenians, Assyrians, and Greeks but also of the suffering of the Muslim population in a string of wars in Anatolia and the Balkans prior to 1923. As the new Turkish state developed, the vanishing of the Armenians became a political, historical, and economic fait accompli. In Turkey, only one substantial book addressing the issue was published between 1930 and the mid-1970s.

When Turkish historians finally returned to the topic in the late 1970s, they did so in response to a wave of terrorist attacks on Turkish diplomats in Western Europe, most of them carried out by Armenian militants based in Beirut. The campaign set off a war among nationalist historians. A simplistic Armenian narrative told of Turkish perpetrators, callous international bystanders, and innocent Armenian victims, downplaying the role that radical Armenian political parties had played in fueling the crackdown. Countering this story was an even cruder narrative spun by some pro-Turkish scholars, several of whom were receiving funding from the Turkish government. That story line portrayed the Armenians as traitors and Muslims as victims of scheming Christian great powers that sought to break up the Ottoman Empire.

The United States served as the main arena for these assertions and denials. In one book published in 1990, Heath Lowry, the head of the newly established Institute of Turkish Studies in Washington, D.C., pursued a common line of Turkish argument: casting doubt on the authenticity of Westerners' eyewitness testimonies. His account, *The Story Behind "Ambassador Morgenthau's Story*," alleged that Morgenthau was an unreliable witness. Others argued that U.S. missionaries were untrustworthy sources because of their anti-Muslim bias. Over the years, efforts to discredit dozens of primary sources have grown increasingly tortuous. The U.S.-based Turkish website Tall Armenian Tale, for example, laboriously tries to cast doubt on every single one of the hundreds of eyewitness testimonies of the massacre.

A more legitimate line of historical inquiry has focused on the hitherto overlooked tribulations of Muslims in Anatolia and the Caucasus during World War I. These accounts have pointed out that the Armenians were not the only people to face persecution in eastern Turkey. The Kurdish and Turkish populations, too, suffered grievously at the hands of the Russian army, which contained several Armenian regiments, when these forces occupied swaths of eastern Turkey not long after the Armenian deportations. Later, in 1918–20, Muslim Azerbaijanis were deported from the briefly independent Republic of Armenia before it was conquered by the Bolsheviks.

The wartime context of the Armenian massacre and the multiple actors involved—in addition to Armenians and Turks: Assyrians, Azerbaijanis, Greeks, Kurds, British, Germans, and Russians—make it harder to tell the story in all its nuance. The history of the Armenian genocide lacks

the devastating simplicity of the Holocaust's narrative. But a new generation of historians has finally taken up the challenge of explaining the full context of the tragedy. Some of them, such as Raymond Kevorkian, are Armenian, whereas others, including Donald Bloxham and Erik-Jan Zurcher, hail from Europe. Several come from Turkey, including Fikret Adanir, Taner Akcam, Halil Berktay, and Fuat Dundar.

At the heart of most of these histories lies a hard kernel of truth: although Muslims suffered enormously during World War I, in both Anatolia and the Caucasus, the Armenian experience was of a different order of pain. Along with the Assyrians, the Armenians were subjected to a campaign of destruction that was more terrible for being organized and systematic. And even though some Armenian nationalists helped precipitate the brutal Ottoman response, every single Armenian suffered as a result. As Bloxham has written, "Nowhere else during the First World War was the separatist nationalism of the few answered with the total destruction of the wider ethnic community from which the nationalists hailed. That is the crux of the issue."

WORD AS WEAPON

If the issue of the experience of the Armenians in World War I were merely a matter of historical interpretation, a way forward would be clear. The huge volume of primary source material, combined with Armenian oral histories, authenticates the veracity of what Armenians recall—as does the plain fact that an entire people vanished from their historical homeland. All that historians have to do, it would seem, is fill out the context of the events and explain why the Young Turks treated the Armenians the way they did.

But what dominates the public discourse today is the word "genocide," which was devised almost three decades after the Armenian deportations to designate the destruction not just of people but also of an entire people. The term is closely associated with the man who invented it, the Polish-born Jewish lawyer Raphael Lemkin. Lemkin barely escaped the horror of the Holocaust, which wiped out most of his family in Poland after he immigrated to the United States. As he would later explain in a television interview, "I became interested in genocide because it happened so many times. It happened to the Armenians, and after the Armenians, Hitler took action."

Lemkin had a morally courageous vision: to get the concept of genocide enshrined in international law. His tireless lobbying soon paid off:

in 1948, just four years after he invented the term, the United Nations adopted the Genocide Convention, a treaty that made the act an international crime. But Lemkin was a more problematic personality than the noble crusader depicted in modern accounts, such as Samantha Power's book *A Problem From Hell*. In his uncompromising pursuit of his goal, Lemkin allowed the term "genocide" to be bent by other political agendas. He opposed the Universal Declaration of Human Rights, adopted a week after the Genocide Convention, fearing that it would distract the international community from preventing future genocides—the goal that he thought should surpass all others in importance. And he won the Soviet Union's backing for the convention after "political groups" were excluded from the classes of people it protected.

The Armenian genocide lacks the devastating simplicity of the Holocaust.

The final definition of "genocide" adopted by the UN had several points of ambiguity, which gave countries and individuals accused of this crime legal ammunition to resist the charge. For example, Article 2 of the convention defines "genocide" as "acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such." The meaning of the words "as such" is far from clear. And alleged perpetrators often deny that the destruction was "committed with intent"—an argument frequently made in Turkey.

Soon, however, only a careful few were bothering to refer to the UN convention in evoking the term. In the broader public's mind, the association with the Holocaust gave the word "genocide" totemic power, making it the equivalent of absolute evil. After 1948, the legal term that had initially been created to deter mass atrocities became an insult traded between nations and peoples accusing each other of past and present horrors. The United States and the Soviet Union each freely accused the other of genocide during the Cold War.

The Armenian diaspora saw the word as a perfect fit to describe what had happened to their parents and grandparents and began referring to the *Meds Yeghern* as "the Armenian genocide." The concept helped activate a new political movement. The year 1965 marked both the 50th anniversary of the massacre and the moment when the Armenian diaspora made seeking justice for the victims a political cause.

In the postwar United States, it was normal practice to put the words "Armenian" and "genocide" together in the same sentence. This usage came with the assumption that the UN convention—one of its first signatories was Turkey—had no retroactive force and therefore could not provide the basis for legal action related to abuses committed before 1948. For instance, in 1951, U.S. government lawyers submitted an advisory opinion on the Genocide Convention to the International Court of Justice, in The Hague, citing the Turkish massacre of the Armenians as an instance of genocide. In April 1981, in a proclamation on the Holocaust, U.S. President Ronald Reagan mentioned "the genocide of the Armenians before it, and the genocide of the Cambodians which followed it."

Political circumstances changed this thinking in the 1980s. Reagan himself performed an abrupt about-face following the 1982 assassination of Kemal Arikan, the Turkish consul general to the United States, by two young Armenian militants in Los Angeles. The death of a diplomat of a close NATO ally in Reagan's own home state enraged and embarrassed the president. He and his team concluded that on three of the foreign policy issues that concerned them the most—the Soviet Union, Israel, and terrorism—Turkey was staunchly on the U.S. side. Armenians, by contrast, were not.

Seven months after the killing of Arikan, the State Department's official bulletin published a special issue on terrorism, which included a piece titled "Armenian Terrorism: A Profile." A note at the end of the article said, "Because the historical record of the 1915 events in Asia Minor is ambiguous, the Department of State does not endorse allegations that the Turkish government committed a genocide against the Armenian people. Armenian terrorists use this allegation to justify in part their continuing attacks on Turkish diplomats and installations." In response to furious Armenian complaints, the bulletin ended up publishing not one but two clarifications of that statement. But from that point on, a new line had been drawn by the executive branch, and the term "Armenian genocide" was outlawed in the White House.

DEADLOCK ON THE HILL

Congress, meanwhile, was plowing its own furrow. By the 1970s, one million Armenians lived in the United States. Younger generations were no longer willing to limit the discussions of their ancestors' deaths to Sunday dinners, requiem services, and low-circulation newspapers. Many Armenian Americans who had political savvy and wealth, such as the Massachusetts businessman Stephen Mugar, began to lobby

Congress. They found an ally in the Speaker of the House of Representatives, Tip O'Neill, whose congressional district included the de facto capital of the Armenian American community: Watertown, Massachusetts. In early 1975, urged on by Mugar and others, O'Neill managed to get the House to pass a resolution authorizing the president to designate April 24 of that year as the "National Day of Remembrance of Man's Inhumanity to Man" and observe it by honoring all victims of genocide, "especially those of Armenian ancestry who succumbed to the genocide perpetrated in 1915."

That occasion marked the only time Congress has passed any kind of resolution recognizing the Armenian genocide. In 1990, the Senate spent two days in fierce debate over whether April 24 should again be officially designated as a national day of remembrance, this time of the "Armenian Genocide of 1915–1923." Kansas Senator Bob Dole led the argument in favor of the motion, but opponents managed to block it. Ever since, with the White House opposed to officially recognizing the phrase "Armenian genocide," resolutions of this kind have failed. They have become an increasingly tired and predictable exercise: however much historical evidence the Armenian lobbyists produce to support their case, the Turks play the trump card of national security, lightly threatening that a yes vote would jeopardize the United States' continued use of the Incirlik Air Base, which is on Turkish territory, a key supply hub for U.S. military operations in the region. In 2007, when one genocide resolution appeared certain to pass the House, no fewer than eight former secretaries of state intervened with a joint letter advising Congress to drop the issue—which it ultimately did.

The fight for genocide recognition has now become the raison d'être for the two dominant Armenian American organizations, the Armenian Assembly of America and the Armenian National Committee of America. They do not conceal that the campaign helps them preserve a collective identity among the Armenian diaspora—an increasingly assimilated group that is losing other common bonds, such as the Armenian language and attendance at services of the Armenian Apostolic Church. But they do not like to admit that the campaign has also damaged their cause. For many Americans, the phrase "Armenian genocide" now evokes not a story of terrible human suffering but an exasperating, eye-roll-inducing tale of lobbying and congressional bargaining. Inevitably, the need to secure votes for any given resolution on the topic means that the memory of the

Ottoman Armenians is cheapened by being tied to other items of congressional business. What results is routine horse-trading, as in, "You vote for the farm bill, and I'll back you on the genocide resolution."

A few thoughtful Armenians object to such genocide-recognition lobbying campaigns on the grounds that they turn the deaths of their grandparents into one big homicide case. They see that their fellow Armenians are less interested in grieving for the dead than in demonstrating outside the Turkish embassy with pictures of dead bodies—the more gruesome, the better—and struggling to prove something that they already know to be true. The obsession with genocide, argues the French Armenian philosopher Marc Nichanian, "forbids mourning."

Armenian campaigners have a point when they contend that their pursuit of genocide recognition has had the benefit of focusing Turkey's mind on an issue that the country would rather have forgotten. But their campaign has also heightened Turkish passions, since their efforts have indirectly strengthened the Turkish nationalist story line of World War I. That partial, but not entirely inaccurate, account portrays the great powers of the time as conspirators plotting to undermine the Ottoman Empire. Consequently, any resolution passed by a modern great power condemning Turkey's historical crimes would only inflame a sore spot.

Turkish society has begun to revisit the dark pages of its past.

Fueling this paranoia, many Turkish policymakers have expressed their suspicion that a genocide resolution would pave the way for territorial concessions. These fears have little basis in reality. Although some radical groups, such as the Armenian Revolutionary Federation, continue to make territorial claims, the Republic of Armenia has all but officially recognized Turkey's current borders. Reestablishing full diplomatic relations between the two countries, which have been on hold since the Armenian-Azerbaijani war in the early 1990s, would make this recognition formal. No statements made by a political party that last ruled Armenia in 1920 can change that reality.

As for reparations, it is hard to see how Washington's adoption of the word "genocide" would make the case for them. Most international legal opinions are clear that the UN Genocide Convention carries no retroactive force and therefore could not be invoked to bring claims on dispossessed property. Such a scenario is all the more difficult to imagine because it would trigger a nightmarish relitigation of the whole of World War I, during which not only Armenians but also Azerbaijanis, Greeks, Kurds, and Turks were robbed of their possessions in Anatolia, the Balkans, and the Caucasus. Yet the invocation of the controversial word still fills Turkey with dread.

A TURKISH THAW

The only good news in this bleak historical tale comes from Turkey itself. Since the election in 2002 of the post-Kemalist government led by the Justice and Development Party (known as the AKP), in a process largely unconnected to outside pressure, Turkish society has begun to revisit some of the dark pages of its past, including the oppression of the non-Turkish populations of the late Ottoman Empire. This growing openness has allowed the descendants of forcibly Islamized Armenians to come out of the shadows, and a few Armenian churches and schools have reopened. Turkish historians have begun to write about the late Ottoman period without fear of retribution. And they have finally started to challenge the old dominant narrative, which the historian Berktay has called "the theory of the immaculate conception of the Turkish Republic."

From the Armenian standpoint, this opening has been too slow. But it could hardly have proceeded at a faster pace. As one of the key figures behind the thaw, the late Istanbul-based Armenian journalist Hrant Dink, pointed out, Turkey had been a closed society for three generations; it takes time and immense effort to change that. "The problem Turkey faces today is neither a problem of 'denial' or 'acknowledgement,'" Dink wrote in 2005. "Turkey's main problem is 'comprehension.' And for the process of comprehension, Turkey seriously needs an alternative study of history and for this, a democratic environment. . . . The society is defending the truth it knows."

In that spirit, Dink, a stalwart of the left and a confirmed anti-imperialist, criticized genocide resolutions in foreign parliaments on the grounds that they merely replicated previous great-power bullying of Turkey. He saw his mission as helping Turks understand Armenians and the trauma they have passed down over generations, while helping Armenians recognize the sensitivities and legitimate interests of the Turks. Dink's stand broke both Turkish and Armenian taboos, and he paid the highest price for his courage: in 2007, he was assassinated by a young Turkish nationalist.

Dink's insights suggest that the word "genocide" may be the correct term but the wrong solution to the controversy. Simply put, the emotive power of the word has overpowered Armenian-Turkish dialogue. No one willingly admits to committing genocide. Faced with this accusation, many Turks (and others in their position) believe that they are being invited to compare their grandparents to the Nazis.

It may be that the word "genocide" has exhausted itself, and that the success of Lemkin's invention has also been its undoing. Lemkin probably never anticipated that coining a new standard of awfulness would set off an unfortunate global competition in which nations—from Armenia's neighbor Azerbaijan to Sudan and Tibet—vie to get the label applied to their own tragedies. As the philosopher Tzvetan Todorov has observed, even though no one wants to be a victim, the position does confer certain advantages. Groups that gain recognition as victims of past injustices obtain "a bottomless line of moral credit," he has written. "The greater the crime in the past, the more compelling the rights in the present—which are gained merely through membership in the wronged group." Conversely, the grandchildren of the alleged perpetrators aspire to absolve their ancestors of guilt and, by association, of a link to Adolf Hitler and the Holocaust.

The term "genocide" has grown emotionally fraught and overly legalistic.

In *A Problem From Hell*, Power chastised the international community for its timidity and failure to stop genocides even after this appalling phenomenon had been named and outlawed. But the problem can be posed the other way around: Could it be that international actors hide behind the ambiguities of genocide terminology in order to do nothing—and that the very power of the word "genocide" and the responsibilities it invokes deter action? It may be no coincidence that the first successful prosecution under the UN Genocide Convention, that of a Rwandan war criminal, came only in September 1998, nearly 50 years after the convention was adopted.

In the Armenian case, the phrase "Armenian genocide" has become customary in the scholarly literature. Those who avoid it today risk putting themselves in the company of skeptics who minimize the tragedy or deny it outright. Many progressive Turkish intellectuals, too, now use the term. Among them are such brave voices as the journalist Hasan

Cemal, grandson of Ahmed Cemal Pasha, one of the three Young Turkish leaders who ran the brutal Ottoman government in 1915.

But that does not mean that *Meds Yeghern* is an inferior and less expressive phrase. If it becomes more widely used, it might acquire the same resonance as the words "Holocaust" and "Shoah" have in describing the fate of the European Jews. There is also the legal term "crimes against humanity," first applied in 1915 specifically in reference to the Armenian massacre. This concept lacks the emotional charge and the definitional problems of the word "genocide" and covers mass atrocities not falling under its narrow definition—those in which the perpetrators may not have intended to eradicate an entire nation but have still killed an awful lot of innocent people.

The challenge for the United States, then, is not simply to find a way to once again use the term "Armenian genocide," a phrase it has employed before, but to do so while also accepting the limitations of a concept that has grown emotionally fraught and overly legalistic. The mere act of using the term, without a deeper engagement with the history of the Armenians and the Turks, would do little to resolve the bigger underlying question—namely, how to persuade Turkey to honor the losses of the Ottoman Armenians and other minorities a hundred years ago.

Having been a neutral power in 1915, the United States can assert that it bears no historical grudge against Turkey. Washington can therefore help bring about the rapprochement between the Armenians and the Turks that Dink advocated. The United States can urge Turkey to hasten the process of historical reckoning by taking steps to keep the small Armenian Turkish population from leaving the country, to conserve what little Armenian cultural heritage survives in Turkey, and to restore the place of Armenians and other ethnic minorities in Turkey's history books.

Armenians need to be able to finally bury their grandparents and receive an acknowledgment from the Turkish state of the terrible fate they suffered. These steps toward reconciliation will surely become more possible as a more open Turkey begins to confront its past as a whole. If that can be made to happen, everything else will follow.

REVIEWS & RESPONSES

Russian millennials are more willing to accommodate Putin's state than rebel against it.
– Sarah Mendelson

REUTERS / SERGEI KARPUKHIN

Generation Putin

What to Expect From Russia's Future Leaders

Sarah E. Mendelson

No Illusions: The Voices of Russia's Future Leaders
BY ELLEN MICKIEWICZ. Oxford University Press, 2014, 264 pp. $29.95.

Twenty years ago, while working for the National Democratic Institute in Russia, I found myself observing a focus group in the town of Khimki, not far from Moscow. In a drab apartment, my colleagues and I strained to understand what local residents thought about candidates running in a by-election for the Russian parliament. It was a disorienting time, that early post-Soviet period, before the wars in Chechnya, the collapse of the ruble, and President Vladimir Putin's rise to power. But for some, it held a tantalizing hope: that Russia would ultimately transition to democracy. I, too, felt optimistic watching the men and women in that first group discussion. They seemed eager to debate the candidates' relative merits and clearly relished their newfound political voice.

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In the decade and a half afterward, I observed dozens of Russian focus groups, in Moscow, St. Petersburg, and a handful of other cities and towns. Each time, eight to ten randomly selected participants discussed critical players and moments in their country's development. My colleagues and I then drew on their responses to conduct a series of nationally representative public opinion surveys. The results dimmed my initial optimism. For example, most respondents thought that Stalin had done more good than harm and were oblivious to the true scale of the purges that had occurred in the 1930s. Most expressed concern about the economic costs and the military casualties of the second war in Chechnya but were untroubled by the human rights abuses that took place. On the whole, the respondents felt ambivalent about democracy as an alternative to autocracy and often questioned whether Western-style liberalism was the best political system for Russia.

In 2005 and 2007, we probed the views and aspirations of young men and women in their late teens and 20s—the Russian millennials. In Russian, they are best described as *pokolenie Putina*: "the Putin generation." My colleagues and I wanted to know whether the trappings of Putin-era prosperity—cell phones, easy access to the Internet, foreign travel—had inspired these people to adopt more liberal values and a more international outlook than their parents held. The answer was no. Russian millennials wished to see their country restored as a hypersovereign power that would stand outside the Euro-Atlantic community and resist international legal norms. Most of them believed that Putin had set the country on the right path. They enthusiastically consumed the Kremlin's steady diet of Soviet nostalgia, xenophobia, homophobia, and anti-Americanism. And the more educated they were, the more likely they were to hold anti-American views.

As part of a broad crackdown on dissent after the eruption of antigovernment protests in 2011, Putin has managed to close nearly all space in which independent, critical voices can thrive. His government has also made it harder to conduct opinion surveys and focus groups of the kind we once organized, by restricting the ability of local organizations to collaborate with Western partners. The government now requires organizations that receive Western support or funding to register as "foreign agents," an epithet that carries connotations of espionage and disloyalty. Such restrictions make Ellen Mickiewicz's *No Illusions* a uniquely valuable piece of research. Mickiewicz had good timing: she conducted a series of focus groups with students at elite Russian universities in the spring of 2011. The following year, Putin began his third term as Russia's president and, in July 2012, signed the foreign-agent legislation into law.

Based on her exploration of the students' views of their country, their president, the United States, democracy, and human rights, Mickiewicz sketches a portrait of contemporary Russia and imagines how its future leaders might shape its course. She finds these young people to be highly skeptical of politics and extremely passive. Their interests mainly center on completing their studies and landing good jobs in government agencies and leading private firms. They remain unmoved by the demands for greater freedom and dignity that brought young people to the streets in countries as diverse as Tunisia and Ukraine. Indeed, they share their president's conviction that public protests do not occur spontaneously. In short, the rise of these aspiring new leaders looks likely to set back any prospect of a Russian democratic awakening by at least a generation.

FOLLOW THE LEADER

The group discussions that form the core of Mickiewicz's book took place in 12 sessions, each two hours long, conducted at three of Russia's top educational institutions: Moscow State University, the Moscow State Institute of International Relations, and the National Research University Higher School of Economics. Many of the 108 student participants, in their last or next-to-last year of undergraduate study, are poised to enter the top echelons of the country's public and private sectors. Tech savvy, well informed, and fluent in English, they represent a capable, if apolitical, crop of future technocrats.

The comments these young men and women make at their roundtable discussions often betray the deep contradictions they contend with in their daily lives. They are disillusioned with the government but planning to serve it; critical of corrupt officials but unwilling to resist them; and intensely focused on the United States, a country they view as both Russia's most dangerous adversary and its indispensable ally. One student, for example, faults the Russian authorities for aggravating social tensions but abhors the U.S. government even more—in fact, she is convinced that the United States could launch air strikes on Russia at any moment. Another cheers on Russian anticorruption activists but still plans to vote for the dominant political party, whose crooked practices these activists expose. Yet another criticizes Russia's "ruling top" for hoarding resources but holds the West morally responsible for Russia's runaway corruption and its citizens' lack of trust in one another—problems that he thinks stem from Western assistance in reforming the Russian economy after the collapse of the Soviet Union. Although these young people are patriotic and eager to change the system from the inside, they are more willing to accommodate the government than rebel against it.

Mickiewicz is best known for groundbreaking research she has conducted on the influence that Russian media wield over the country's politics, and she pays particular attention to the role that mass media play in the lives of her subjects. Her book provides its most compelling insights when it dives deep into young Russians' engagement with the Internet. Similar to elite millennials everywhere, these men and women live online and draw most of their information from news websites and social networking platforms. Although they watch state-controlled Channel One Russia on television, they recognize it as Kremlin propaganda—important to consider but, in the words of one student, "not worth trusting." This skepticism extends to the government's presence on the Internet. When then President Dmitry Medvedev started a blog in 2008, he impressed observers in the United States and Europe but failed to win the students' attention. The future leaders ridicule his blog as nothing more than a public relations stunt; one of them even describes it as "generally idiotic."

The book includes many such insights. But the limitations of Mickiewicz's research undermine the strength of her conclusions. It is sometimes difficult to know how much confidence to place in her assessments, given that Mickiewicz bases them on little more than 24 hours' worth of conversations with preselected groups. She repeatedly defends her approach, arguing that the discussions offer a glimpse into how Russia's future leaders will view the world. And yet, although focus groups yield valuable evidence, it is impossible to know whether the views expressed are representative of the entire cohort of young, educated Russians across the country. Only large random-sample surveys could have accomplished that. Mickiewicz claims that surveys would have yielded "vastly less information" than her focus groups. This is an odd proposition, especially because it suggests that Mickiewicz believes she had to choose between the two methods rather than letting them complement each other.

HANDS-OFF EXPERIENCE

Mickiewicz's approach might be imperfect, but it nevertheless provides a rare glimpse into how some young Russians think at a critical moment in Russia's history. One of her most salient findings concerns their views on political activism and protest movements. Today, young people around the world—in Brazil, Indonesia, Mexico, South Africa, and, most recently, Ukraine—have grown adept at using technology to pressure their governments for greater transparency and accountability. The combination of the Internet and affordable technologies has spawned organic citizen movements dedicated to combating corruption and abuses of power.

Putin spice latte: the Russian president's likeness in Moscow, February 2012

REUTERS / SERGEI KARPUKHIN

But many of the future leaders profiled in *No Illusions* show little enthusiasm for such activism. They dismiss it by echoing a familiar Kremlin charge: antigovernment protests and demonstrations reflect the hidden hand of the United States. They simply do not believe that such protests could erupt without foreign sponsorship. Washington, the Russian students point out, has supported and funded many of the civil society groups that have taken part in pro-democracy uprisings in a few postcommunist countries over the past 15 years. To the students, such movements thus appear to be externally designed, to be illegitimate, and to represent a major threat to their country's security. The fact that the United States has also funded several civil society organizations in Russia, such as the independent election-monitoring group Golos, only deepens their suspicions. The students call the United States a "competitor," an "aggressor," and, in Mickiewicz's summary of their words, a "puppet-master everywhere in the world."

The focus groups took place just seven months before Russian citizens themselves poured into the streets in huge numbers to protest massive election fraud. The growing public discontent was met with a government backlash, including a drastic curtailment of the freedoms of assembly, speech, and association. Although Mickiewicz apparently did not follow up with any of her subjects to gauge their responses to those events, it is probably safe to assume that most of them felt at best ambivalent about the protest movement—and that few, if any, joined the anti-Putin demonstrators in their rallies. None of the roundtable discussions she describes suggests much passion for political activism. Rather, as Mickiewicz explains, the students accept that "change, if it comes, will come from the inside."

In general, the students do seem attuned to the ferment underneath Russia's surface in the spring of 2011, and many foresee the major clashes that it will soon spark. But this recognition does not translate into active political engagement. For example, several months before the student roundtables took place, environmental groups and anti-Putin activists launched peaceful demonstrations against the government's plan to build a highway through a beloved forest in Khimki that forms part of the greenbelt around Moscow. The rallies met with violent resistance. One journalist researching corruption linked to the project was severely beaten by unidentified assailants and eventually died as a result of his injuries. Another barely survived a similar attack. In a stunning move, the government later bowed to the activists' demands and suspended the project—a response that made the event an anomaly in contemporary Russian politics. Yet during their discussions, the students demonstrate surprisingly little interest in the issue; only six of the 108 mention it at all, and even then, they mostly discuss it in an unemotional, detached way. Only one young woman appears to be aware of the personal sacrifices the protesters made for their cause.

The students express greater concern over another story that captured headlines in late 2010: riots that exploded steps from the Kremlin and were organized by far-right, nationalist, and neo-Nazi groups. Transcripts of the roundtable discussions register the students' dismay at the breakdown of order and the scale of the violence. But they show little awareness of the role that Putin's pro-Russian, nationalist rhetoric and brutal tactics in the North Caucasus have played in enabling the rise of the ultra-right. Moreover, although the students oppose the neo-Nazis, they generally share their hostility toward ethnic minorities from the North Caucasus. "I will not trust, most of all, people of Caucasian ethnic groups," one participant admits, articulating a commonly held view.

FRESH FACES, SAME AGENDA

In a sense, Mickiewicz has produced a collective biography of the class of people who are likely to inherit the system constructed by Putin, and who might one day find themselves at odds with the reform-minded activists who unsuccessfully challenged that system in recent years. These activists now seem either thoroughly outgunned or reduced to a spent force, especially in the wake of the post-protest crackdown and the explosion of pro-Kremlin sentiment brought on by Russia's occupation of Crimea and support for pro-Russian rebels in eastern Ukraine. Today's liberals appear unable to collaborate effectively or coordinate their actions. They have been joined by a few interesting new characters, such as the charismatic but xenophobic anticorruption activist Alexei Navalny. But the basic building blocks of a coherent platform for civic action continue to elude many protesters, as they clash with one another or form impractical ideological alliances.

On the other hand, the very same risk aversion, self-centeredness, and detachment from politics that lead many of Mickiewicz's elite subjects to support the status quo might someday work to the advantage of the activists. Although members of the anti-Kremlin opposition have failed to put much of a dent in Putin's machine, they have learned a great deal about politics and developed precisely the kinds of leadership skills that seem to be lacking among the more conventional elites that formed Mickiewicz's groups.

One Russian millennial, in particular, provides an intriguing counterexample to the young people profiled in *No Illusions*: Nadezhda Tolokonnikova, better known as a member of the protest punk band Pussy Riot, who studied at Moscow State University at the same time as the students in Mickiewicz's focus groups. Tolokonnikova was months away from completing her philosophy degree when she created the band in 2011. In February 2012, she took part in the band's famous protest inside the Cathedral of Christ the Savior, which led to her arrest (along with two other performers). She served 21 months in jail for her activism but has since resumed her campaign for democracy and human rights with renewed dedication. Tolokonnikova is hardly representative of her generation, but her story hints at the possibility of another future for Russia, one in which nonconformism, tolerance, and individualism become virtues rather than crimes.

The prospects for this future, however, appear remote, given that Russia's new leadership will surely be composed of many of the young men and women *No Illusions* profiles. In fact, their rise to power seems likely to perpetuate the status quo. These new leaders might be patriotic and eager to right their country's course, but even the most reform-minded among them will run up against the unscrupulous, inefficient, and inert nature of the government they will join. At best, they could become capable technocrats—skilled and broadly sympathetic to the inevitable waves of discontent that will rock Russia in the future, but unable, and often unwilling, to upend the ruling establishment. It will take a major systemic shock to break this deadlock—a shock more powerful than either Russia's current opposition or its aspiring leaders might be able to generate. Until then, Russia's future rulers can only hope that their elite education has prepared them for the country that Putin, one day, will leave behind.

How to Think Like Edmund Burke

Debating the Philosopher's Complex Legacy

Iain Hampsher-Monk

The Intellectual Life of Edmund Burke: From the Sublime and Beautiful to American Independence. BY DAVID BROMWICH. Belknap Press, 2014, 500 pp. $39.95.

Edmund Burke, the eighteenth-century British politician and writer, is today best known for *Reflections on the Revolution in France*, published in 1790. In it, Burke denounced the revolutionaries in France and their supporters in Great Britain for what he considered their misplaced faith in principles such as "abstract liberty" and "the rights of men" and for their rejection of more pragmatic, procedural paths to ending the tyranny of hereditary monarchy. As Burke put it:

> Property with peace and order; with civil and social manners . . . are good things too; and, without them, liberty is not a benefit whilst it lasts, and is not likely to continue long. The effect of liberty is to [let] individuals . . . do what they please: we ought to see what it will please them to do, before we risque congratulations, which may be soon turned into complaints.

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In a sense, the debate between Burke and his antagonists—between conservatism and radicalism, broadly defined—has shaped political debate in the Western world ever since, and Burke himself has become known as "the father of modern conservatism."

David Bromwich is not fond of that phrase. "No serious historian today would repeat the commonplace that Burke was the father of modern conservatism," writes the esteemed scholar of literature in his magnificent, beautifully written new study of the first half of Burke's career, which is the most notable addition to a recent crop of books about Burke. The trouble is not only that the line between Burke and modern conservatism is hardly straight but also that Burke's legacy is far too complex to be captured by any such phrase. Part of the problem, as Bromwich makes clear, are the tensions (and even paradoxes) within Burke's own thinking and writing. His condemnation of the French Revolution was preceded by his sympathy for the American one that took place two decades earlier. This gave ammunition to his radical foes, such as the critic William Hazlitt, who later wrote that by rejecting the French Revolution, Burke "abandoned not only all his practical conclusions, but all the principles on which they were founded. He proscribed all his former sentiments, denounced all his former friends, [and] rejected and reviled all the maxims to which he had formerly appealed as incontestable."

Burke's champions were (and still are) quick to defend him against such charges of inconsistency and hypocrisy,


BURKE
FREEDOM
Mom
Country
GUNS
Tea
Love

and with some justification. And yet it is impossible to ignore the fact that Burke's writings have inspired a remarkably wide range of ideologies and political programs. Nineteenth-century liberals praised Burke for reconciling the principles of constitutionalism with a kind of utilitarian pragmatism. Twentieth-century Cold Warriors appropriated Burke for their own ends, casting their communist foes as modern-day incarnations of the radical French Jacobins whom Burke excoriated. Economic liberals have painted Burke as a champion of the virtues of the free market; at the same time, others have used his writings to argue for more state intervention in the economy in the interests of social cohesion.

Readers without such agendas often have trouble drawing clear political lessons from Burke because his writing took the form of polemic commentary rather than systematic political theory. Burke himself frequently disparaged "abstract theory," and his insights—although often brilliant—can seem aphoristic, even ad hoc. Complicating matters further, Burke was more concerned with moral psychology and aesthetics than with politics during the early stages of his career. *A Philosophical Enquiry Into the Origin of Our Ideas of the Sublime and Beautiful*, which Burke wrote in 1757, is a systematic treatise, a contrast to his later, looser writing about politics. As Hazlitt noted in a backhanded compliment, "Mr. Burke's literary talents were, after all, his chief excellence."

And so anyone hoping to understand Burke is confronted with an array of historians and philosophers of aesthetics, politics, and political theory; social conservatives and free-market liberals; and even closet radicals—all claiming that they hold the key to the "real" Burke.

Undaunted, Bromwich sets out to demonstrate "the originality and continuities" of Burke's thought. The result is an intellectual biography of the best kind. Bromwich seeks to convey "what it meant to think like Edmund Burke" and to demonstrate the coherence and relevance of Burke's moral and political vision. With a remarkable level of detail and sensitivity, Bromwich makes a virtue out of what others lament as problematic: the relationship between Burke's political activity and his written works. Bromwich is convinced that people today can still learn from Burke, not as political partisans but as "thoughtful readers." In Bromwich's hands, Burke offers better lessons about how to think than about what to think.

NO MERE IMPROVISER

The British have their own version of Burke's sobriquet, referring to him as "the father of English conservatism." This is also an uneasy fit, though, since Burke was actually an Irishman. Born in Dublin in 1729 to a family with a Catholic background, he was raised as an Anglican only because his father, a lawyer, had converted to escape the restrictions on Catholics practicing law. After graduating from Trinity College Dublin, the young Burke made his way to England, intending to follow his father's footsteps into a legal career. He soon abandoned that goal to pursue writing full time. His work attracted the attention of members of England's literary and artistic elite, including the writer Samuel Johnson and the painter Joshua Reynolds. Eventually, Burke's rising profile brought him into contact with the political elite as well, and he ultimately became private secretary to Lord

Rockingham, who served as prime minister in the mid-1760s. Around the same time, Burke launched his own political career and soon became nationally prominent as a member of Parliament. Two of the areas he represented, Wendover and Malton, were "pocket boroughs," with tiny electorates and controlled by local landowners. But a third, Bristol, was the kind of big metropolitan district where modern electoral politics was emerging, and its populist dynamism and trading economy had an important impact on Burke's political writing.

In Parliament, Burke joined Rockingham's faction, known as the Rockingham Whigs. The Whigs were an association of aristocratic politicians who identified themselves with the principles of the Glorious Revolution of 1688—a parliamentary (and Protestant) coup that had replaced King James II, whom the plotters suspected of aspiring to a continental (and Catholic) type of monarchical absolutism, with the co-regents William III and Mary II. Although the Whigs were inspired by their predecessors' suspicion of royal power, their political instincts were paternalist, not populist.

Within this group, Burke acted as a developer of policy, a fixer, and especially as a spokesman; indeed, in an age of formidable orators, many considered him the country's greatest. Much of his fame rested on speeches he delivered dealing with basic questions of parliamentary government, a form that was still just emerging. He defended the concept of a political "party," which was at the time a suspect term; insisted that members of Parliament act as representatives of their constituents, rather than as mere delegates; pushed for the British crown to take a consensual, rather than coercive, approach to the American colonies; and argued for parliamentary control of royal finances.

Bromwich gives Burke's views on such matters their due, but he is interested in something deeper. He rejects the view of Burke as "an anti-theoretical critic of modern politics, a 'pragmatic' adapter to local needs." According to Bromwich, Burke was no mere improviser but rather "cherished certain abstract ideas unconditionally." To unearth those ideas and to recover Burke's thought processes, Bromwich performs sincere, disciplined readings of Burke's work, albeit ones that bear the imprint of a scholar of English literature who is more likely to notice an allusion to Shakespeare than one to Machiavelli. Above all, Bromwich contextualizes Burke, explaining the terms in which Burke understood and responded to the political situations he faced and revealing how those responses formed a coherent view of politics.

PUTTING BURKE TO WORK

Of course, rescuing Burke from charges of partisanship and theoretical flimsiness has its own dangers. Constructing a coherent theory from disparate tracts on controversial issues of the day risks distorting his views. Anyone seeking to understand Burke's legacy faces a basic question: To recover the historical Burke, must one sacrifice a politically usable view of him?

Bromwich's book suggests that the answer to that question is no, and it offers a revealing portrait of Burke's mind. If there is one underlying principle that Bromwich seizes on, it is Burke's oft-repeated claim that "the principles of true politics are those of morality enlarged." This does not mean that Burke was interested in simply reconciling moral principles and political practices. For Burke, knowledge of human nature (and culturally acquired "second" natures) set limits on what people could reasonably demand of themselves and others. Political theorists and politicians should not try to close the gap between lofty moral goals and the mundane, grubby reality of everyday politics but rather work within that very space, recognizing it as the realm of the possible. As Burke remarked in 1782, "The touchstone of all theories which regard man and the affairs of men [is,] Does it suit his nature in general? Does it suit his nature as modified by habit?" Radical revolutionaries, he complained, "are so taken up with their theories about the rights of man, that they have totally forgotten his nature."

Despite Burke's own insistence that he mistrusted abstract ideas, Bromwich draws attention to Burke's understanding of their power and the way they operate—especially ideas Burke considered wrong or misunderstood. For example, Burke was less interested in whether such a thing as a "natural right" existed than in understanding why someone would believe in such an idea and what would follow from that belief. In this sense, "ideology" was one of Burke's major concerns, even though that term was not coined until a few years after he died. Burke perceived that any theory that loses touch with people's natures risks perverting them, just as any theory that simply accepts people as they are is helpless to improve their condition.

Bromwich also explores Burke's thoughts about the responsible uses of power. Today, democratic discourse and values rely so heavily on the principles of the French Revolution, especially the idea of individual human rights and the need to institutionalize them, that it requires a huge effort to conceive of a worldview that did not include them. Burke did not seek to make state institutions conform to precise moral ideals, much less to achieve the abstract goal of democracy. Instead, he pushed for what people today might call "good governance." At its most basic, this means considering whether policies are suitable to the customs and nature of the people to whom they apply and considering the likely effect of any particular policy before establishing it. To prevent abuse, Burkean good governance requires constraining political power, even—perhaps especially—the influence of majorities. And it requires regularity, consistency, and predictability when it comes to interpreting and enforcing laws.

This vision of government is difficult to turn into anything resembling a rule; it might sound like mere common sense. But for Burke, such objectives—and not more abstract quests, such as maximizing equality, liberty, or wealth—represented the important stuff of politics. Burke's goals cannot be achieved through the mere application of logic; instead, they require the use of political persuasion and the exercise of that rare skill, judgment. This is what Bromwich means by thinking like Burke: understanding how leaders arrive at the right decisions in particular cases and how they ensure that decision-making in the future will also be guided by good judgment.

WHAT WE TALK ABOUT WHEN WE TALK ABOUT BURKE

Burke's political thought resists the modern assumption that a thinker can achieve consistency only by subscribing to a single organizing principle or set of values. The lack of such a principle in Burke's thought partially explains why it has proved so hard to accurately transpose Burke onto contemporary politics. But Bromwich has managed to illuminate a different kind of consistency in Burke's thought.

Consider the seeming contradiction in Burke's implicit defense of the rebellious colonists in the American colonies and his explicit opposition to the revolutionaries in France. During the 1770s, Burke opposed British policies in the Colonies (such as the imposition of taxes on the American settlers) and at home (such as the use of royal finances to buy influence in Parliament) that he thought undermined the constitutional and institutional structures that safeguarded liberty. Two decades later, he argued that the principle of liberty as espoused by the French Revolution lacked an institutional framework that could restrain the revolutionaries themselves, who showed little concern for the quality of representation, failed to foster links to established communities, and created no "upper" legislative chamber to ensure continuity and stability in governance.

In both cases, Burke sought to create or defend institutional structures that could protect liberty (in the American case) and also constrain it (in the French one). For Burke, liberty was not a paramount principle; nor, he warned, should it be imposed without regard to existing institutions and practices. Praising the British style of government, and contrasting it with the approach of the French revolutionaries, he claimed, "We compensate, we reconcile, we balance. We are enabled to unite into a consistent whole the various anomalies and contending principles that are found in the minds and affairs of men."

Burke's fundamental objection to revolutions inspired by rationalistic ideals was their arrogance. As he wrote in *Reflections*, "We are afraid to put men to live and trade each on his own private stock of reason; because we suspect that this stock in each man is small, and that the individuals would do better to avail themselves of the general bank and capital of nations, and of ages." In Burke's view, knowledge is held not individually but collectively—in institutions, in customs, and even in shared prejudices. Maintaining a population's allegiance to and trust in such institutions is a more important goal than promoting efficiency or rationality. Almost any theory, even those espoused by self-proclaimed conservatives, can be held in an absolutistic way such that it poses a threat to institutional and political stability. That is perhaps the most crucial lesson Burke has to offer modern politics.

Exit Music

Did Obama Bungle the Iraq Withdrawal?

Blame Game

Lawrence J. Korb

In describing what he characterizes as a bungled U.S. exit from Iraq, Rick Brennan ("Withdrawal Symptoms," November/December 2014) presents an incomplete picture. For one thing, he overestimates the desire among Iraq's leaders for U.S. forces to stay in the country past 2011, the date by which Iraq and the United States agreed that the U.S. military presence would end. When U.S. troops withdrew from Iraq's major population centers in 2009, Iraqi Prime Minister Nouri al-Maliki announced triumphantly that his country had finally "repelled the invaders." It's true that Maliki sent mixed signals at times and that he might have exaggerated his opposition to the presence of U.S. forces for the benefit of domestic audiences. But the Iraqi parliament consistently opposed Washington's insistence that it grant legal immunity from Iraqi law to U.S. troops who stayed past 2011. Members of parliament knew their refusal to do so would doom any agreement on allowing U.S. troops to remain longer. Their public stance on this issue, and not Maliki's alleged flexibility in private, is the single best gauge of the Iraqi elite's attitude toward the prospect of an extended U.S. military presence.

Brennan argues that a lasting American presence would have bolstered Iraq's fledgling security forces. As evidence, he cites a 2010 internal review by U.S. military planners that concluded that if U.S. troops withdrew completely by 2011, Iraq's security forces would be unable to defend the country. But Brennan ignores public statements made by David Petraeus and Raymond Odierno, two of the last U.S. military commanders in Iraq. In 2008, Petraeus told Congress that the performance of many Iraqi units was "solid." Odierno, in media appearances in June 2009, went even further, claiming that Iraq's military was ready to stand on its own. And in 2013, Petraeus wrote in *Foreign Policy* that Iraqi forces had capably taken charge of the country's security by the time U.S. troops left in 2011.

In reality, the Iraqi army, like Iraq itself, unraveled not because of a lack of U.S. training or support but because of Maliki's intransigence and methodical pursuit of sectarian interests. As Brennan acknowledges, Maliki gutted the Iraqi army's officer corps, systematically replacing competent Sunni officers he mistrusted with incompetent Shiite ones he considered loyal. Maliki took a similar approach with the civil service, further marginalizing the country's Sunni majority and Kurdish population.

Despite Brennan's claims, there is no evidence that a residual U.S. military presence would have reined in Maliki's sectarianism. As Brennan himself admits, Maliki "failed to take any serious actions leading toward genuine Shiite-Sunni reconciliation." For example, even during the temporary "surge" of U.S. forces beginning in 2007, when the United States had more than 100,000 troops on the ground in Iraq, and despite applying heavy pressure, U.S. officials failed to persuade Maliki to act on an arrest warrant for Lieutenant General Mahdi al-Gharawi, a Maliki ally who had been charged with running secret prisons and torturing detainees. Instead, Maliki promoted Gharawi, placing him in charge of Nineveh Province, where the strategically crucial city of Mosul is located. In June 2014, Gharawi abandoned his post when the Islamic State of Iraq and al-Sham, or ISIS, attacked the city.

When I met with Maliki in 2011, I asked him if there was anything more that U.S. President Barack Obama could have done to make it possible for a residual U.S. force to stay in Iraq. He answered no. If anyone jeopardized Iraq's future, it was Maliki.

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Brennan Replies

Lawrence Korb is correct that Nouri al-Maliki's policies aggravated sectarian divisions in Iraq and contributed to the poor performance of the Iraqi military. But on a number of other points, he is wrong.

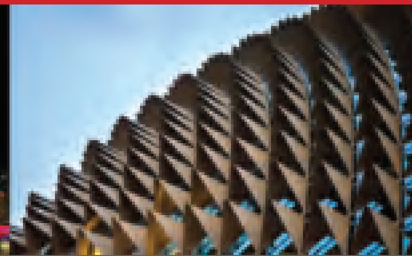
First, Korb suggests that public statements by two U.S. generals, David Petraeus and Raymond Odierno, undermine my argument. But Petraeus and Odierno never asserted that the Iraqi military was capable of defending the country on its own. In April 2008, Petraeus did tell Congress that the performance of many Iraqi military units was "solid." But in the same testimony, he also stated that Iraqi forces were "not yet ready to defend Iraq or maintain security throughout the country on their own." In June 2009, Odierno told CNN that Iraqi forces were ready to take responsibility for conducting independent operations in major metropolitan areas, but he did not say that they could operate entirely without U.S. assistance. And in his 2013 essay for *Foreign Policy*, Petraeus noted only that Baghdad had "achieved slow but steady progress in building the capabilities of the Iraqi Security Forces" during the surge and that the Iraqi military had gradually assumed responsibility for the country's security by 2011—not that Iraqi forces were prepared to succeed without U.S. support.

Moreover, from 2009 to 2011, the U.S. military continued to help Iraqi forces with training, logistics, maintenance, intelligence, and air support. Although U.S. military officials publicly applauded the capabilities of Iraqi troops, U.S. forces were always there to ensure that they didn't fail. This "enabling support," as U.S. officials called it, was available every day, at every level of command, in every Iraqi province, until the American withdrawal.

Second, Korb argues that the Iraqi parliament did not want a residual U.S. military presence in Iraq. This is an oversimplification. In October 2011, every member of parliament, with the exception of 40 members of a hard-line Shiite Islamist party, voted in favor of a continued U.S. troop presence—a position overwhelmingly supported by the Iraqi military. Due to domestic political considerations, however, only Kurdish parliamentarians were willing to take the political risk of publicly backing legal immunity for U.S. troops who stayed past 2011. The outcome might have been different had the Obama administration either started the negotiations earlier or been more willing to compromise.

Third, Korb claims that a continued U.S. military presence would not have curbed Maliki's sectarianism. It's true that Maliki often ignored Washington's wishes even when U.S. troops were present, but the United States frequently moderated Maliki's most extreme sectarian tendencies. For example, Maliki refrained from issuing an arrest warrant for a key political rival, Iraqi Vice President Tariq al-Hashimi, until the day after U.S. military forces departed the country.

Korb is right on one important count: Maliki holds a great deal of responsibility for jeopardizing Iraq's future. But the Obama administration is also at fault—for failing to develop a coherent strategy to protect U.S. interests in Iraq and the region by safeguarding the hard-fought gains made during the eight years that U.S. forces spent in Iraq.



A Unique and Steady Partnership

By Ambassador Chan Heng Chee

On August 9, 2015, Singapore celebrates its fiftieth birthday. This date marks an important achievement for Singapore, given its abrupt expulsion from the Federation of Malaysia. Today, Singapore is a city-state and nation-state, the only one of its kind in the world.

In 1965, many analysts would not have bet that Singapore could be viable in a tumultuous region, much less enjoy economic success and stability or maintain regional peace and security.

The U.S.-Singapore relationship flourished after Singapore's independence; previously, the island was a British colony that evolved within the British orbit. But World War II ended the British Empire, and in 1968 the Labor Government announced its intention to withdraw British forces east of the Suez Canal.

Ambassador-at-Large Chan Heng Chee of Singapore

This shift created new security and economic calculations for Singapore. Even before Singapore separated from Malaysia, then Prime Minister Lee Kuan Yew considered the United States the only country that could counter the spread of communism globally and in Asia.

Singapore shared a strategic convergence with the United States; Prime Minister Lee spoke clearly in support of American intervention in Vietnam. In 1966, Singapore welcomed troops in Vietnam to its shores for rest and recreation. That began Singapore's unique and close partnership with the United States.

For more than five decades, Singapore has been the most consistent and articulate supporter of a U.S. presence in the region, during Democratic and Republican administrations alike. When the Philippines asked the United States to leave Subic Bay Naval Base and Clark Air Base, Singapore offered facilities to American forces.

In 1990, Singapore and the United States signed a memorandum of understanding granting the U.S. Navy and Air Force access to Singapore's military facilities. This agreement underpinned the concept "places not bases," which has been replicated elsewhere and has facilitated the U.S. military presence in the region. In 1991, Singapore joined the international coalition for Operation Desert Storm, and American ships and aircrafts were refuelled and resupplied at its port and airport.

In 2001, Singapore supported Operation Enduring Freedom in Afghanistan as well as Operation Iraqi Freedom in 2003. Defense and intelligence cooperation became deeper and broader, and in 2005 Singapore concluded a Strategic Framework Agreement (SFA) for a Closer Cooperation Partnership in Defense and Security to capture all the activities that had developed and expanded.

Under the SFA, Singapore welcomes the rotational deployment of up to four U.S. Littoral combat ships. Elsewhere, Singapore has consistently worked closely with the U.S. Navy to fight piracy in the Gulf of Aden.

But U.S.-Singapore partnership goes beyond security; the countries cooperate on trade as well.

U.S.-Singapore total trade in 2013 was $62.15 billion. It may surprise many that Singapore is Asia's sixth largest trading partner of the United States after China, Japan, South Korea, India, and Taiwan. In 2013, the United States was Singapore's fourth largest trading partner after China, Malaysia, and the European Union.

U.S. foreign direct investment (FDI) in Singapore in 2012 was $85.2 billion, and Singapore is the third largest source of FDI from Asia to the United States, following Japan and Australia, which total $26.2 billion.

The United States and Singapore value an open-trading system that allows flows of capital and goods and services and

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A unique and steady partnership

embraces norms of transparency and accountability as essential to global prosperity, peace, and development.

The U.S.-Singapore Free Trade Agreement (USSFTA) signed in 2003 was the first of its kind in Asia. Trade was already healthy between the two countries prior to the agreement, but ten years after the agreement, U.S. export of goods to Singapore has increased by over 85 percent, making Singapore, despite its small size, the United States' thirteenth largest market.

More than two thousand American companies base their their Asia headquarters in Singapore, and approximately fifteen thousand Americans live work and study in Singapore.

Singapore, the United States, and ten other negotiating partners are waiting for the final push for the Trans Pacific Partnership (TPP) to bring the trade deal to a conclusion. This will enable the United States to build meaningful multilevel and multifaceted trade and investment relationships with Asian economies.

Singaporean officials, students, professionals, artists, and entrepreneurs have been attracted to the quality American universities. The United States remains the first choice for education, cost aside. An estimated five thousand Singaporean students study in the United States, and several alliances and collaboration arrangements have been forged between universities to foster the transfer of knowledge, methodology, and learning cultures.

The Yale-NUS College, the Duke-NUS Graduate Medical School, the Peabody collaboration with the Yong Siew Toh Conservatory of Music, and the Singapore University of Technology and Design established in collaboration with the Massachusetts Institute of Technology are a few examples.

But even more than the quantifiable aspects of state interactions, the unique U.S.-Singapore relationship is encapsulated in the countries' political and strategic discussions; U.S. officials express admiration and respect for senior statesman, Lee Kuan Yew, who developed friendships with American presidents and strategic thinkers.

These strategic exchanges continued with former Prime Minister Goh Chok Tong and now with Prime Minister Lee Hsien Loong.

The countries' ties developed in defense, economic cooperation, business, and education create strong bonds that maintain a stable and resilient relationship. While the countries' views may differ on certain issues, U.S.-Singapore relations have been historically strong.

In the next couple of decades, the global strategic climate will change as new security challenges evolve. The contemporary international system is not the world of peace dividends we envisaged at the end of the Cold War. Security challenges – terrorism, financial crises, rising nationalism in Asia, maritime issues, pandemics, climate change, and the environment – have required cooperation to address global disorder.

The United States and Singapore can work together bilaterally and through the Association of Southeast Asian Nations to navigate these issues to enhance regional stability and prosperity. Singapore will continue to maintain a balanced view of what it believes is in the region's best interest.

Once the TPP concludes, more steps can be taken to promote economic and technological cooperation. Over the next fifty years, technological advances will create new horizons for global economics, trade, politics, and security.

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Asian roots, global reach

This year, the National University of Singapore (NUS) celebrates the 110th year of its founding together with Singapore's 50th year of independence. The university's history is intertwined with Singapore's dramatic development as a nation, and is marked by a rich tradition of leadership and contribution to country and society.

Founded in 1905 as a modest medical school, NUS is today widely known for its innovative and rigorous education that has nurtured generations of leaders and luminaries across industries, professions and sectors in Singapore and beyond.

Consistently ranked as one of the top two universities in Asia and top 25 in the world, NUS is a research powerhouse with a lively and cosmopolitan community of inquiring minds spread across three campuses, 16 schools and 24 university-level research institutes and centres.

Education and entrepreneurship

The university's education is distinguished by being global and Asian. Its comprehensive curriculum and over 70 joint, concurrent and double degree programs with leading universities around the world offer students multiple pathways.

Seven out of ten undergraduate students at NUS can go on study abroad opportunities with 300 top universities in 40 countries, or pursue internships in high-tech start-ups through its six NUS Overseas Colleges, which provide a truly unique entrepreneurial educational experience.

NUS President Prof. Tan Chorh Chuan said: "NUS is a leading university hub for entrepreneurship and start-ups in Asia. We are keen to enhance our students' learning experience through global entrepreneurial opportunities, which in turn will further increase the vibrancy of our academic community. Our strong push in applying and commercializing our research discoveries and invention, is also positioning NUS as a magnet for promising start-ups and academic entrepreneurs, drawing investors, venture capitalists and business partners to our campus."

NUS has deep and longstanding partnerships with leading U.S. universities in key educational programs. These include the Duke-NUS Graduate Medical School Singapore with Duke University, the Yong Siew Toh Conservatory of Music with the Peabody Institute of the Johns Hopkins University, and Yale-NUS College with Yale University.

The university pioneered a new form of residential colleges at the NUS University Town (UTown), which has been successful in creating diverse, vibrant and collaborative learning communities.

UTown is also home to the Campus for Research, Technology and Enterprise (CREATE), an initiative of Singapore's National Research Foundation. CREATE supports interdisciplinary research groups from renowned universities that include the Massachusetts Institute of Technology, ETH Zurich, University of California at Berkeley, Shanghai Jiao Tong University and University of Cambridge.

Strength in research

NUS has broad-based research excellence and is among the world's leaders in several fields, including quantum technologies, cancer, and mechanobiology based in NUS' three Research Centres of Excellence (RCEs), as well as engineering, computing, materials science and Asia-related research. It is also a partner in a fourth RCE that draws on the university's strengths in life sciences and sustainability research.

Much of the research at NUS is integrative and multi-disciplinary in nature, with particular emphasis on themes such as integrated sustainability solutions for energy, water and the environment; ageing populations; biomedical sciences and translational medicine; global-Asian studies; finance and risk management; and materials science.

The university is strongly committed to transforming the translational impact of NUS research to improve lives, with many research partnerships with industry and governmental entities.

Further afield, NUS is the first foreign university to establish a research institute in Suzhou, China. Leading companies who have established research labs and partnerships at the university include Siemens, GE, Zeiss, and Agilent

NUS' vision and strategic positioning as a leading global university centered in Asia, is reflected by the university's role as a key node in multiple global knowledge networks including the World Economic Forum, the International Alliance of Research Universities, the Association of Pacific Rim Universities, Universitas 21, and the ASEAN University Network.

"NUS is well-poised to tackle the challenges of the rapidly changing and complex future. We will continue to innovate and strengthen our education and research, and develop and grow new strategic local and global partnerships. Going forward, we will be placing an even greater focus on preparing future-ready graduates, transforming the translational impact of our research and making NUS the most vibrant university enterprise ecosystem in Asia. These will enable our university to create even more distinctive and high-impact value for Singapore and the world," Tan said.

Singapore enters a new golden age

Ahead of celebrations to mark fifty years of independence later this year, the city-state looks back on how successfully and quickly this former British colonial post progressed into one of the world's most dynamic financial centers and most stable economies.

Beyond its dominance in finance and trade, Singapore is building a reputation as a leading center of business services, education, and green technology, and information technology, thanks to a growing community of entrepreneurs and venture capitalists.

"We have come a long way since independence in 1965. We first focused on education, technology, trade, and the rule of law. This made Singapore into the economically vibrant and liveable international hub that it is today. So far, this has helped us deal with our land and resource constraints. Even as Singapore transformed, so has the world around us, which has created new challenges and opportunities," said Foreign Affairs Minister K. Shanmugam.

Amid the robust economic growth in the country, Singapore hopes to play a dominant role in the region as the ten-member Association of Southeast Asian Nations moves towards economic integration.

"As a founding member of ASEAN, Singapore places great importance on the grouping. We believe it is important to maintain ASEAN's centrality in the evolving regional architecture, which should be open, inclusive and outward-looking so that ASEAN can serve as a neutral platform for major powers to engage one another and the region," Shanmugam also said.

Reflecting the significance of Singapore on the global economy, business organizations in the country are among the oldest in the Asia and boast an impressive roster of members, which include the world's largest companies.

"The Singapore International Chamber of Commerce (SICC) was established in 1837 and is the longest serving chamber of commerce in the region. It represents some of the world's largest international corporations and leading companies in Singapore," recalled SICC Executive Director Victor Mills.

"Consistent engagement with policy and decision makers gives our members a competitive advantage in today's ever evolving economy. Singapore continues to offer many attractive opportunities for business both in the republic itself and as a very effective gateway to the region. Our roots in Singapore are as deep as our commitment both to the country and to the businesses which sustain it," Mills also said.

Singapore's education sector has also raised the qualifications of its graduates by facilitating partnerships between local institutions and foreign universities, a development that also further internationalized the city-state's future workforce.

So, it is no surprise that many global businesses look to Singapore's talent pool for their employees.

"Research has to be both interdisciplinary and international today, as many fundamental issues the world is facing require solutions that come from different perspectives and specialties," said Professor Bertil Andersson, President of Nanyang Technological University (NTU Singapore).

"NTU itself is a microcosm of the world with students, professors and staff representing 100 nationalities. We collaborate not just across disciplines but with other top academic, industry and research partners," he added.

NTU has more than 400 international partnerships. For example, it has a joint medical school set up with Imperial College London and its premium Renaissance Engineering Program offers students a choice to spend a year at University of California, Berkeley or Imperial College London, with internships at Silicon Valley or in Europe.

Through partnerships with industry giants such as Lockheed Martin, BMW and Rolls-Royce, the university translates its research into benefits for the world.

By interacting with people of different backgrounds and cultures on campus and overseas, NTU students, faculty and researchers benefit immensely from being exposed to different approaches and world views.

A young, research-intensive university on a rapid global rise, NTU Singapore has 33,000 undergraduate and postgraduate students in Medicine, Engineering, Business, Science, and Humanities, Arts, & Social Sciences.

UCT finds perfect base for Asian operations

Ultra Clean Technology, an award-winning contract manufacturing solutions provider from California, established its Asian headquarters in Singapore more than five years ago to follow the lead of long-time customers in the semiconductor industry.

"The Singapore operation is very significant to our company as a whole. It is our Asia headquarters and drives all of our activities in the region, aside from being a key manufacturing site for the company," explained UCT Senior Vice President for Asia Lavi Lev.

UCT Senior Vice President for Asia Lavi Lev

"We greatly benefit from the stable and efficient business environment in the country, the highly skilled workforce available to us, and the government's keen interest in taking the country to the next level of manufacturing," he added.

Lev believes UCT gained its competitive advantage because of its ability to excel in quality manufacturing of high value products. These products require the ability to anticipate the demand for new technologies and apply them for the benefits of the world most demanding customers.

Amid rising demand for the latest state-of-the-art manufacturing technologies, UCT recently opened its Additive Manufacturing Center in Singapore. The center, the largest and most comprehensive site in South East Asia, is geared to providing 3D printing technologies and products to customers around the world.

"Singapore is leading the pack in research and development of Additive Manufacturing technologies. By establishing our center here, UCT expands its offering to its customers and deepen its relationship with the local R&D centers and Universities" said Lev.

UCT is encouraging companies in the United States to consider Singapore as business location because the city-state has built a global reputation for its central location, efficiency, stability, high quality manufacturing, and uncompromising business practices.

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Is the U.S.-Indian Relationship Built to Last?

On the Rocks

Robert Boggs

In his critique of U.S. President Barack Obama's India policy, Nicholas Burns ("Passage to India," September/October 2014) correctly identifies the issues that have bedeviled U.S.-Indian relations, such as differences over international agreements on climate change and trade. But he overestimates both India's desire to improve the relationship and the benefits doing so would bring.

Like many advocates of stronger U.S.-Indian ties, Burns fails to recognize that two countries with the same system of government do not necessarily develop similar interests or policies. In the case of India, the burdens of colonialism and economic underdevelopment have led it to oppose much of the U.S. agenda. Like China, India continues to view the United States as a presumptuous superpower and competitor. And if India realizes its goal of becoming an economic powerhouse with global influence, New Delhi's rivalry with Washington, particularly in South Asia, will likely intensify.

Although Burns writes that "the United States and India should continue to strengthen their defense and political coordination in the Asia-Pacific region," he neglects to mention that India appears uninterested in cooperating on this front. The United States has included India in multilateral strategic discussions on the Asia-Pacific region, such as the Quadrilateral Security Dialogue, with Australia and Japan, which sought to respond to increased Chinese power, but India has not made such meetings a priority. New Delhi has also been conspicuously absent from the two combined naval task forces the United States assembled to combat terrorism and piracy in the Indian Ocean. And despite providing development assistance to Afghanistan, India has refused to participate in the International Security Assistance Force, NATO's security mission in Afghanistan.

When India does participate in multilateral organizations, it routinely opposes initiatives proposed by the United States and other Western powers. India's opposition to interfering in other countries' domestic affairs has led New Delhi to vote against human rights resolutions in the UN General Assembly and to openly criticize UN involvement in such crises as the civil wars in Libya and Syria. New Delhi has also opposed the West on many economic issues, working with the other so-called BRICS nations—Brazil, Russia, China, and South Africa—to create alternatives to the World Bank, the International Monetary Fund, and other Bretton Woods institutions.

Still, Burns holds out hope that Obama and Indian Prime Minister Narendra Modi will "work together to promote stability in India's South Asian neighborhood." If India's actions are anything to go on, however, it appears that the country prefers to work alone to maintain its regional dominance—and it views the United States as a threat. As a U.S. diplomat serving in South Asia from 1985 to 2004, I watched Indian officials repeatedly pressure neighboring countries not to cooperate with Washington, often because New Delhi believed, erroneously, that such cooperation would raise the U.S. military's profile in South Asia. In early 2014, India protested U.S. calls for fair and inclusive elections in Bangladesh because it feared that voters would not elect a pro-India party. To gain leverage over its neighbors, India has had its foreign intelligence agency provide financial support to antigovernment insurgencies in Bangladesh, Nepal, and Sri Lanka. Two of the insurgent groups India has backed—Maoist militants in Nepal and Tamil separatists in Sri Lanka—have killed thousands of civilians and been designated as terrorists by the U.S. government.

Burns suggests that an increasingly powerful China may spur a stronger U.S.-Indian nexus in Asia. But even though border clashes with China have aggravated security concerns in New Delhi, Modi openly admires China's development model and may prefer to engage China diplomatically and economically rather than try to contain it. And many Indian analysts do not believe that the United States would come to India's defense if a U.S.-Indian military partnership provoked Chinese aggression.

Modi still remains a mystery to U.S. policymakers. He appears to want the United States to help revitalize India's economy, but it is unclear if he wants the longer-term political and defense partnership that the United States seeks in South Asia. A staunch Hindu nationalist, Modi likely wants to continue India's quest for regional dominance, a move that would not endear him to the United States. His endorsement of his party's vision of *Akhand Bharat*, or "undivided India," which sees most of South Asia as belonging to India, does not bode well for a more accommodative regional foreign policy.

Of course, India is firmly within its rights to define its own interests and chart its own strategies. But U.S.-Indian relations—and U.S. strategic interests—would be best served by a realistic appraisal of Indian values and goals, which Burns fails to provide. Contrary to Burns' assertions, India is unlikely to become a "critical partner" to the United States anytime soon. New Delhi will strengthen its ties with Washington only if doing so serves its interests; Washington should do the same.

ROBERT BOGGS **is Professor of South Asia Studies at the Near East South Asia Center for Strategic Studies, in Washington, D.C., and previously worked for the U.S. State Department for 32 years. The views expressed here are his own.**

Burns Replies

India has not always been an easy or even compatible friend to the United States. I suspect Robert Boggs and I agree on that fundamental point. We both served in U.S. administrations that tried to elevate bilateral ties with New Delhi. The difference between us may be traced, in part, to the fortune of timing. During the 1980s and 1990s, U.S. presidents and secretaries of state struggled to find common ground with a succession of Indian prime ministers.

I was fortunate, however, to work with India on behalf of the U.S. government at a very different time—during President George W. Bush's second term in office. Bush and Secretary of State Condoleezza Rice made building stronger relations with India a major priority. We negotiated a landmark civil nuclear agreement, strengthened military ties, and oversaw a major expansion of trade and investment between the two countries. Bush and Rice produced the closest relationship between Washington and New Delhi in decades. Missing from Boggs' response is an acknowledgment of that undeniable progress.

Boggs also errs in describing my article as a "critique" of the Obama administration's India policy. In fact, my main argument was that India should be a higher priority in the president's remaining two years in office, following two difficult years for Washington and New Delhi. And I placed more responsibility on the Indian government than the Obama administration for the slowdown in progress.

I try to be realistic about what can and cannot be accomplished with New Delhi. For decades, India has been a difficult and often dyspeptic partner for the United States at the UN on major multilateral issues. Even during the past few years, India has shown little vision or courage in working with the United States on global trade, climate change, or critical security threats, from Iran's drive for nuclear weapons to NATO's intervention in Libya.

But I don't agree with Boggs when he concludes that the current Indian leadership sees the United States as a "competitor" and that there is little real strategic value in the U.S.-Indian relationship. In fact, there have been many positive changes in relations during the Bush and Obama administrations. Washington and New Delhi have both supported the Afghan government against the Taliban, and India values the U.S. military role in Afghanistan so much that its real worry is that the United States will leave too soon. As victims of Islamist terrorism, the two countries have become close partners on homeland security. Their defense ties continue to broaden and deepen. And both share a concern about China's newly aggressive behavior in the East China and South China seas. These shared concerns with India have produced concrete benefits for the United States.

In many ways, China is at the center of the new strategic cooperation between the United States and India. Both Washington and New Delhi will partner with China on trade, investment, and climate change. But the United States and India will also compete with China for military power in the region. As a result, the United States and India will continue to build closer security ties, often in partnership with Japan, due to a basic, common self-interest: balancing China's increasing power in Asia.

I agree with Boggs that the new Indian prime minister, Narendra Modi, should articulate more clearly his aims for the U.S.-Indian relationship. But Boggs is on thin ice when he suggests that Modi will pursue a Hindu nationalist vision of an "undivided India" encompassing most of the countries of the region. There is scant evidence for that very serious charge.

Boggs appears to see India as an unreliable partner. Washington will surely continue to have its share of disagreements with New Delhi. But I see a glass half full, given all that has changed for the better under Presidents Barack Obama and George W. Bush in Washington's growing, sometimes frustrating, but undeniably strengthening strategic partnership with India.

Who Lost Congo?

The Consequences of Covert Action

From Colony to Chaos

Herman J. Cohen

Stephen Weissman should be congratulated for his excellent research on the CIA's involvement in Congo's internal politics immediately after independence ("What Really Happened in Congo," July/August 2014). Nevertheless, his attribution of blame for all of Congo's initial instability and the subsequent corrupt dictatorship of President Joseph Mobutu to the CIA is wildly off the mark.

Congo's problems were a direct outcome of Belgium's botched transition of Congo to independence in 1960. Unlike the British and the French, who started preparing their African colonies for independence in the early 1950s, the Belgians initially planned to delay independence for Congo until the 1980s, at the earliest. The revenue from the colony's rich copper and diamond resources was too great to contemplate losing. But in 1958, Belgium's internal politics turned leftward and anticolonialist, and the government was forced to move Congo toward independence with only two short years to prepare. The result was disastrous.

The Belgians decided that they could transition Congo to self-rule after independence by maintaining their expatriate administrative control, including within the security forces, for enough years to enable the Congolese to eventually take over. This was a naive assumption. The Congolese military's rank and file mutinied against their Belgian officers from day one. The Belgian business community tried to preserve their investments in the copper-rich Katanga Province and the diamond-rich Kasai Province by financing and arming local secessionist groups. Prime Minister Patrice Lumumba was as responsible as anyone else for the chaos, given his fierce anti-Belgian rhetoric. As a result of his sympathies, Soviet diplomats started spreading money around in support of Lumumba, pushing U.S. President Dwight Eisenhower to the brink of sending in NATO forces. Lumumba also caused the Belgian business community to hire mercenaries to help the secessionist ambitions. By August 1960, the country was a total mess.

What stabilized Congo during its first five years was the successful UN peacekeeping mission initiated by the Eisenhower administration. Contractors from the UN and the World Bank kept the public works and other services going while the basics of Congolese politics were being sorted out. The CIA's support for Mobutu's taking power in 1965 was truly the least bad option, given Belgium's failure to train any Congolese cadres.

The first ten years of Mobutu's rule, from 1965 to 1975, were actually positive. Working through the U.S. ambassador and the CIA station chief, U.S. experts provided sound advice to the Congolese government, especially when it came to economic and financial management. They persuaded Mobutu to accept an International Monetary Fund stabilization program that reduced inflation and filled store shelves with consumer goods. The CIA helped Mobutu co-opt the secessionists in Katanga and Kasai. When I was U.S. chargé d'affaires in Congo in 1968–69, my team advised Mobutu on how to nationalize the copper mines in the proper and legal fashion, a move that made him popular. This good decade came to an end in 1975, when the world price of copper fell by 50 percent and Mobutu found his Treasury deeply in debt and unable to pay. At that point, corruption and mismanagement took over. But political stability continued until Rwandan and Ugandan invaders overthrew Mobutu in 1997.

Weissman's characterization of Mobutu's rule as something aberrant during Africa's first three decades of independence is not accurate. Mobutu was mainstream Africa. Every independent African government was a one-party state at the time. None allowed opposition. Every one of them had rent-seeking political leaders. The only thing that set Mobutu apart was how ostentatious his theft was. Governments in Côte d'Ivoire, Tanzania, and Zambia, to cite just a few examples of moderate regimes that the U.S. government admired, routinely diverted public revenues to private pockets through their ruling political parties. That theft was stealthy, but the net result was the same. And when oil production took off in Angola, Gabon, and Nigeria in the 1970s, the theft in those countries made Mobutu look like an amateur.

Although the CIA was very active in Congo during that country's first five years of independence, the agency's actual impact on events there was peripheral. The unhappy decolonization process was the driving negative force.

HERMAN J. COHEN is a former U.S. Ambassador who served as Assistant Secretary of State for Africa from 1989 to 1993.

In Defense of Devlin

Charles G. Cogan

In his article on U.S. covert action in Congo during the 1960s, Stephen Weissman asserts that "Lawrence Devlin, the CIA station chief in Congo for most of the period, had direct influence over the events that led to [Patrice] Lumumba's death." Having served as deputy chief of station in Congo from May 1963 to July 1965, the period between Devlin's two tours as station chief, and having examined the archival record in detail, I can say with confidence that Weissman mischaracterizes Devlin's role in the death of Lumumba.

As the Congo crisis unfolded in the summer of 1960, with 1,000 Soviets having been flown into the country, by Devlin's calculation, the U.S. government concluded that Lumumba was impossible to deal with. On August 18, 1960, the National Security Council held a meeting at which President Dwight Eisenhower may have indicated that Lumumba should be eliminated. Robert Johnson, the NSC note taker at the meeting, later told the Church Committee, "President Eisenhower said something—I can no longer remember his words—that came across to me as an order for the assassination of Lumumba." On the basis of that meeting, Allen Dulles, the director of the CIA, considered that he had a mandate for Lumumba's assassination, and he took action accordingly.

In September 1960, CIA headquarters sent agents to Léopoldville to put in motion a plan to assassinate Lumumba. The main idea was to gain access to Lumumba's bungalow and place poison there, preferably in his toothpaste. But the highly impractical operation never materialized. Devlin, who opposed it, intentionally dragged his feet and eventually dumped the poison into the Congo River—even though, in a cable that same month, he had said he favored "arrest or other more permanent disposal of Lumumba."

In December, however, events were set in motion that led to Lumumba's death. After his arrest by Colonel Joseph Mobutu's forces, Lumumba and two of his aides were taken from Léopoldville to the Thysville military camp down the Congo River. Mobutu's government initiated informal negotiations for the transfer of Lumumba to Katanga with Moise Tshombe, the province's governor, in early January 1961. On January 12, Devlin warned the Congolese government that the Thysville garrison was likely to mutiny in support of Lumumba, and on January 14, Devlin learned that Lumumba was to be transferred out of Thysville. Devlin took no action after January 14 but wrote a lengthy dispatch on the subject in early February.

On January 17, after being flown to the Elisabethville airport, in Katanga, Lumumba and his two aides were taken away and were never seen again. The most commonly accepted version is that Lumumba was put to death later that night in the presence of Godefroid Munongo, Tshombe's close lieutenant. A UN report written later that year named the probable actual killer as "Col. Huyghe, a Belgian mercenary." As for Devlin's role, the Church Committee's conclusion still stands: "It does not appear from the evidence that the United States was in any way involved in the killing."

According to Weissman, "Devlin gave no indication that he had voiced any opposition to the plan" to move Lumumba and thus gave "a green light to the transfer." He also writes that "Devlin's permissive stance was undoubtedly a major factor in the government's decision to move Lumumba."

But that characterization vastly overstates Devlin's power to stop the transfer even if he had wanted to. True, it does not appear that the U.S. government made much more than pro forma appeals that Lumumba not be harmed. But it is doubtful that Devlin could have had any influence over his fate. Devlin was much more a spectator than a participant in these events; the Congolese were running the show. Although Devlin had twice saved Mobutu's life during the turbulent summer of 1960 by informing him of plots, Mobutu was an extraordinarily arrogant and arbitrary figure. He later turned against Devlin, wrongly suspecting the station chief of preparing a coup against him.

CHARLES G. COGAN is an Associate at the Belfer Center for Science and International Affairs at the Harvard Kennedy School, where he authored the case study "Containing the Chaos: The US-UN Intervention in the Congo, 1960–1965."

Weissman Replies

Although the critiques by Herman Cohen and Charles Cogan supply useful contextual information, I am disappointed that they virtually ignore my evidence that CIA covert action in the 1960s in Congo helped shape and perpetuate unrepresentative, incompetent, and corrupt regimes in that country.

To begin with, Cohen uses too broad a brush to portray my view. He complains about my "attribution of blame for all of Congo's initial instability and the subsequent corrupt dictatorship of President Joseph Mobutu to the CIA." What I actually wrote was that "the agency's legacy of clients and techniques contributed to a long-running spiral of decline, which was characterized by corruption, political turmoil, and dependence on Western military intervention," and that "the United States must bear some responsibility for what Mobutu wrought."

In contrast, Cohen argues that the key factors behind the country's crises were "Belgium's botched transition of Congo to independence," Patrice Lumumba's anti-Belgian rhetoric, Soviet opportunism, the 1975 collapse of copper prices, and the region's propensity for single-party regimes and "rent-seeking political leaders"—in short, everything but the massive and effective CIA political and paramilitary interventions of 1960–68 and their effect on subsequent U.S. policy. Cohen even downplays the impact of the CIA's support for Mobutu's 1965 coup, characterizing it as a kind of obligatory reaction to poor decolonization. It was, he says, "the least bad option, given Belgium's failure to train any Congolese cadres." In reality, it was a calculated effort by U.S. officials to end preelection feuding among leading CIA clients, which threatened to provide an opening for leftist forces.

Cohen emphasizes the "positive" results of the first decade of Mobutu's rule, a period that roughly coincided with Cohen's own diplomatic focus on Congo. But it is telling that the main accomplishments he cites are Mobutu's acquiescence to the U.S. government's recommendations to accept an International Monetary Fund stabilization program and nationalize copper mines in "the proper and legal fashion." When it came to Mobutu implementing his own ideas, many of which were aimed at shoring up his political support, flashy initiatives devolved into abject failures. Thus, he created a single political party to sustain his legitimacy, but it soon deteriorated into a hollow shell. He misspent some of the newfound revenue from the nationalized mines on white-elephant projects and illicitly diverted other funds. His ill-conceived policy of transferring foreign-owned agricultural and commercial businesses to members of the political elite became a monumental fiasco that paralyzed the economy and decimated his transient popularity.

Cohen is correct that the Mobutu regime's authoritarianism and corruption reflected broad political currents in Africa. The era's dominant political model was "neopatrimonialism," a powerful form of political patronage that verged on corruption and personalized rule. Yet Cohen fails to recognize that Congo constituted a particular and extreme variant of the pattern. As I wrote, "Ever since the CIA's intervention, Congo's leaders have been distinguished by a unique combination of qualities: scant political legitimacy, little capacity for governing, and corruption so extensive that it devours institutions and norms." Cohen's view that the regimes in Côte d'Ivoire, Tanzania, and Zambia were essentially similar might appear to get the CIA off the hook, but it is not accurate. Unlike Congo, these three countries were headed by figures who had led the anticolonial struggle and thereby retained some political legitimacy. Moreover, neopatrimonialism was relatively subdued in Côte d'Ivoire and Tanzania, with the former maintaining a reputation for effective governance and the latter preserving some legal norms. And none of the countries had such widely rampant corruption as Congo, where Mobutu told his bureaucrats publicly, "If you want to steal, steal a little cleverly, in a nice way."

Cogan, for his part, rejects my conclusion that Lawrence Devlin's permissive stance was a major factor in the Congolese decision to transfer Lumumba to the Belgian-supported secessionists who murdered him. Yet Cogan makes no effort at all to grapple with the considerable evidence I offer for my opposite finding. He does not address Devlin's intimate working relationship with those who decided on the transfer. That group received essential financial support and political advice from Devlin, habitually consulted him on matters affecting Lumumba's security, and almost always heeded his counsel. Nor does Cogan make any mention of Devlin's withholding of advance warning of the transfer from Washington, which Devlin most likely did to foreclose the possibility that the State Department would discourage the move on the eve of President John F. Kennedy's inauguration.

Cogan also backs the claim Devlin makes in his memoir that he intentionally dragged his feet in opposition to an earlier order to plan Lumumba's assassination. In an article based on research into declassified CIA documents ("An Extraordinary Rendition," *Intelligence and National Security*, April 2010), I found that there was no independent evidence that Devlin had stalled the plot. To the contrary, he proposed and explored eight possible options within three weeks, all of which were turned down by his boss. He subsequently asked headquarters to dispatch a third-country national to do the job and to send him by diplomatic pouch a high-powered foreign-made rifle with a telescopic sight and a silencer. And after Lumumba escaped from UN custody, Devlin queried headquarters about dispatching one of his operatives to go after Lumumba to take "direct action."

These events occurred more than five decades ago but have only gradually come into full light. If the United States wants to improve its foreign policy, it needs to acknowledge and reflect on the historical record—especially where it suggests that Washington made poor choices.

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Brazil, The Right Address Of Innovation In Oil And Gas

The challenges resulting from the pre-salt layer attract investments of companies in research, development, and innovation in the country, including the implementation of global research centers

By Alexandre Gaspari

The discovery of pre-salt layers and huge oil and natural gas reservoirs in deep water offshore Brazil has drawn attention to the country. The new exploratory frontier brought challenges, not only for Petrobas, a company that drilled wells nearly seven thousand meters below the sea bed, but for oil and gas service providers globally. The pre-salt layer, which is two thousand meters thick, and the reservoir's high temperature and pressure, require innovative solutions to assure production and development.

A number of initiatives are planned to attract investments for oil and gas research, development, and innovation (RD&I) in Brazil. Petrobras, which routinely invests in technological innovation, increased its resources and partnerships in this segment by attracting equipment and service providers to develop research on new materials and processes in cooperation with a number of the country's universities.

Thematic networks—groups dedicated to specific technological strategies—are among Petrobas' mechanisms to boost RD&I. According to a Petrobas press release, 49 companies are currently working toward this goal. Petrobras is currently collaborating with 122 Brazilian universities and research institutions, as well as 32 science and technology institutions in 15 different countries.

Petrobras' portfolio of partnerships spans several levels of maturity, which, according to a company press release, "vary from initiatives involving confidentiality agreements with the purpose of exchanging information to partnerships consolidated in a structured portfolio of projects, connected to the main poles of technological excellence of the worldwide oil and gas industry. This includes national and foreign companies, major suppliers of equipment and services, as well as technology-based companies." Furthermore, Petrobras is responsible for 92 percent of investments from the approximately 30 billion Brazilian real (R$), as per a contract signed with the regulatory *National Agency for Oil, Natural Gas and Biofuels* (Agência Nacional do Petróleo, Gás Natural e Biocombustíveis, or ANP).

The Brazilian government has also launched programs to drive RD&I, notably Plano Inova Empresa, which has a specific program for the oil and gas sector, the Inova Petro. Inova Petro is a joint initiative by the Brazilian Innovation Agency (Financiadora de Estudos e Projetos or FINEP) and the Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social or BNDES), with technical support from Petrobras, which aims to promote R&D, engineering and technological transfer projects, the production and marketing of products, innovative processes and services for the development of national suppliers for the production chain of the oil and natural gas industry.

"Currently, Inova Petro is in the analysis phase of business plans of its second bidding round. In the first phase of this new process, 28 companies submitted 39 projects, representing a total of R$ 688 million of investment. For the second phase, 20 projects from 17 companies have been approved, representing a total of R$471 million. The results on the approval of business plans are scheduled to be published by the end of December. In the first Inova Petro bidding notice, companies requested a total support of R$2.7 billion in the first phase; 11 business plans were selected, amounting to R$355 million in investments," explained Priscila Braquinho, head of the oil and gas department and of the oil and gas production chain of BNDES.

Since the discovery of pre-salt areas in Brazil, several Brazilian and foreign companies have invested in the implementation of laboratories and research centers there. These facilities are intended to become world references in RD&I.

The Parque Tecnológico do Rio de Janeiro (Rio de Janeiro Technological Complex), created ten years ago on the campus of the Universidade Federal do Rio de Janeiro (Federal University of Rio de Janeiro, or UFRJ) in Ilha do Fundão, is a successful example of private investment in R&D. Several companies have already invested in research centers there, mainly in the oil and gas sector, and investments are expanding. Schlumberger, Baker Hughes, Halliburton, FMC, TenarisConfab, Siemens, Vallourec & Mannesmann, and EMC are some of the oil and gas equipment providers that are installing laboratories and research centers at the complex.

In mid-November 2014, General Electric opened its first Global Research Center in Brazil at the Parque Tecnológico do Rio de Janeiro. GE aims to developing in the offshore systems and submarines sector, with a focus on installing equipment to develop the Brazilian pre-salt layer.

The investment in the Parque Tecnológico do Rio de Janeiro, however, is not exclusive to service providers. In addition to Petrobas, which installed a facility to develop asphalt binders and new paving solutions, the British company BG Group will open a global research center in the first quarter of 2015.

BG Group's interest in RD&I in Brazil is not new. The company, which will commemorate twenty years of operations in the country in 2014, is a partner of Petrobras in two blocks of the so called "pre-salt cluster" in the Santos Basin BM-S-9, where the Sapinhoá and Lapa Fields were discovered, and BM-S-11, where the Lula, Iara and Iracema Fields were first found. BG is also a member of the consortium that has a concession for the BM-S-50 block, also in Santos, where the Sagitário prospect was discovered. In ANP's eleventh bid, BG acquired ten exploratory blocks in the Barreirinhas Basin, in northeastern Brazil, in a partnership with other oil companies, in 2013.

"In Brazil, we have found a favorable business environment to make large investments and to carry out long-term projects. BG's interests in Brazil in the Research and Development area are fine-tuned to those of the Brazilian government. Our goal is to establish a strong technological industrial base in all our production chain. The company has a genuine interest in seeing Brazil producing high level research. In RD&I alone, BG Brazil will invest close to US$ 1.5 billion in the country until 2025," confirmed Nelson Silva, chief executive officer of the BG Group for Brazil.

So far, the British company has already invested more than $8 billion in the country. And its portfolio of oil and gas exploration and production will make Brazil BG's main business center globally. BG already ranks second—behind Petrobas—in oil production in the country.

For this reason, Silva emphasizes the importance of investments in technological innovation in the country. "There are several strategic advantages in developing research and development activities in Brazil. The construction of our model, based on partnerships with universities, research centers, suppliers, startups and highly qualified national and international institutions finds in Brazil a fertile environment for the development of innovation projects. The R&D potential is huge. The needs of the industry itself resulting from the pre-salt and the technological challenges imposed by exploration and production projects have built the perfect scenario for the development and implementation of technologies to be employed in the sector in the next few years, worldwide," he emphasized.

Haters Gonna Hate

Does It Matter That Heidegger Was a Nazi?

What We Know

Christian Madsbjerg

The German philosopher Martin Heidegger has always been a deeply problematic character. Scholars have long known that Heidegger was an active and unapologetic Nazi. But for the most part, they managed to separate the man from his work. Until now, that is: after examining several of Heidegger's private notebooks, released just last year, Gregory Fried ("What Heidegger Was Hiding," November/December 2014) argues that such a separation is no longer possible.

Fried is one of a growing number of academics who claim that Heidegger's anti-Semitism infected his core philosophical ideas and who have delivered, in essence, an intellectual death sentence. "The notebooks will almost certainly spell the end of Heidegger as an intellectual cult figure, and that is a welcome development," Fried writes. But he has things backward: philosophers achieve immortality not by escaping the eye of critics but by being subjected to critics, who chisel away at the uninteresting and inconsistent to reveal a bedrock of truth.

All the notebooks provide is further evidence that Heidegger was a flawed person with dangerous political views. His work, like that of other philosophers with problematic biographies, will continue to stand on its own. Marx's ideas have survived despite his xenophobia; Nietzsche's, despite his madness. Students still read these thinkers at seminar tables around the world, just as they should Heidegger. However abhorrent Heidegger's politics, his ideas are more relevant than ever. They tackle today's most important philosophical question: How can humans find meaning in modern lives?

Heidegger believed that previous philosophers had answered this question incorrectly, assuming that meaning came from external forces. For Plato, truth derived from ideal forms; for Christians, from God; for Nietzsche, from the so-called will to power. Heidegger feared that such worldviews, by directing people's focus outward, estranged them from their fundamental "being," turning them into mere resources available to be optimized. Something can be said for that prediction: many businesses now refer to their employees as "full-time resources," or "FTRs." They manage them through human resources departments, track them on spreadsheets, and dispose of those they deem unneeded.

Heidegger believed that such logic led to a nihilistic culture that alienated people from where meaning actually lay: in deep involvement with the world they inhabited. People were at their best, he contended, when they collectively engaged with their history, as the French do in what they call "the culture of the table," a tradition of cooking and conversation now under siege from TV dinners and other processed food. When people got in touch with their roots, they couldn't be reduced to profit engines for others.

It is true that Heidegger used such concepts to indict Jews in his notebooks, writing that they were "uprooting" German society and promoting a culture of "empty rationality" and "calculative skill." But just because Heidegger's hatred made its way into the notebooks doesn't invalidate his use of similar concepts elsewhere, such as in "Building Dwelling Thinking," his noteworthy 1951 lecture, in which he never referenced the Jews but still made a stirring case for a more rooted existence.

Further evidence for Heidegger's theories can be found by looking at the state of the world today. Time and again, the culture Heidegger warned against has sowed misunderstanding in virtually every area of human affairs. As crises of governance have gripped countries around the world, politicians have fed the paralysis by reading their constituents through abstract poll numbers. And because banks calculated risk according to a reductive conception of human nature—as rational and profit maximizing—they led the entire financial system astray in 2008, setting the stage for a crash. If flawed ideas are holding modern society back, then, Heidegger's offer a way forward. The philosopher's anti-Semitism, however abominable, shouldn't stand in the way.

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Fried Replies

Christian Madsbjerg calls me "one of a growing number of academics who claim that Heidegger's anti-Semitism infected his core philosophical ideas and who have delivered, in essence, an intellectual death sentence." But that description misunderstands my reaction to what I termed "the end of Heidegger as an intellectual cult figure." I argued that Heidegger wanted his readers to embrace genuine philosophical questions rather than his own ossified answers—a goal best served by Heidegger's death as an object of intellectual hagiography.

Taking up Heidegger's call requires walking a fine line between rejecting the philosopher outright and ignoring his political choices. To do so, one must closely examine Heidegger's anti-Semitism and his Nazism, assessing how the questions Heidegger formulated and the answers he arrived at led him where they did. Only then can Heidegger's work retain its value. After all, one doesn't study philosophy merely to find confirmation in the views of others. Quite the opposite: readers learn the most about themselves by confronting those with whom they deeply disagree.

The question Heidegger took up—of what it meant to be human—is as ancient as philosophy itself and never belonged solely to him. Heidegger rejected any answer that located meaning in the metaphysical, in terms of a supreme being, entity, or system. He argued that meaning instead came from an existence rooted in one's own time and place. That is why Heidegger hoped Hitler's movement would occasion a radical, even apocalyptic new beginning to history: the overthrow of liberal universalism and the return to a society grounded in historical tradition. It is also why he saw the Jews—in his mind, one of the prime proponents of the Western metaphysical tradition—as standing in the way.

Madsbjerg is right that Heidegger's thinking still has much to offer outside the walls of the academy. The conflict between universalism and particularism remains the defining test of today, as the Islamic State of Iraq and al-Sham, or ISIS, destroys cities to forward its fundamentalist vision and nativist groups in Europe attack immigrants to serve their nationalist ones. Humanity can confront this continuing challenge only by treating it seriously and philosophically. And Heidegger can still help make sense of it; important thinkers almost always have some ideas that can be broken off from their work as a whole, and one can engage with the questions they take up without accepting their specific answers. In Heidegger's case, however, one must tread especially carefully, armed with a full recognition of what that whole entails.

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Nuclear Waste

Why Are American Nukes Still in Europe?

Let It Be

James Blackwell

Barry Blechman and Russell Rumbaugh ("Bombs Away," July/August 2014) have revived an old argument: U.S. tactical nuclear weapons are militarily useless, and so there is no reason for Washington to keep them in Europe. The problem, however, is that Blechman and Rumbaugh would have the United States draw back just as new Russian capabilities threaten its NATO allies.

In recent years, Moscow has been testing midrange cruise and ballistic missiles, something explicitly forbidden under the 1987 Intermediate-Range Nuclear Forces Treaty. It has also adopted a new first-use doctrine. Whereas Russia's long-range nuclear weapons threaten NATO members on both sides of the Atlantic, these missiles would target Europe alone. U.S. nuclear weapons in Europe are the strongest bulwark standing in the way; without them, the alliance's European members could not deter a Russian strike on their own. Such a capability is particularly crucial given Moscow's recent expansionism. On any given day, the Kremlin could move troops into Estonia, just as it did in Ukraine. If U.S. nuclear weapons were gone from the European continent, Moscow could implement invasion plans undeterred, reasonably certain that Washington wouldn't respond with strategic nuclear strikes.

Blechman and Rumbaugh also assert that many Europeans don't want U.S. nuclear weapons on their territory. But those who oppose hosting such weapons represent a small minority, and among NATO's top leaders, there is a strong consensus in favor of keeping U.S. weapons on the continent. The alliance's director of nuclear policy, Fred Frederickson, acknowledged as much in a speech this past August, saying, "There is currently . . . no debate around that [U.S. nuclear weapons] officially at NATO headquarters." NATO's defense posture, meanwhile, continues to rely on a mix of nuclear and conventional capabilities.

Blechman and Rumbaugh also complain about the expense of tactical nuclear weapons. They are correct that extending the service life of the B-61 bomb, the only type of nonstrategic nuclear weapon remaining in the U.S. arsenal, will cost over $8 billion. But compared with other Pentagon projects, that program is reasonably affordable. (So far, it also has the uncommon distinction of running on time and under budget.) According to the *Los Angeles Times*, for example, in 2011, the U.S. Air Force purchased nearly two dozen Massive Ordnance Penetrator bombs, each weighing approximately 30,000 pounds, at a cost of $15.7 million per bomb. These conventional weapons are unquestionably effective at destroying underground facilities, but unlike B-61s, they will do nothing to make Moscow think twice about invading its neighbors. (And each can be used only once.) Next to a conventional war, nuclear deterrence in

Europe is a bargain. What's more, the B-61 life-extension program will have two other important benefits: improving the weapon's safety and enabling Washington to retire its last megaton-class bomb, the B-83.

It is true that, as Blechman and Rumbaugh point out, maintaining U.S. nuclear capabilities in Europe will require the Pentagon to replace aging fighter planes with the F-35 Joint Strike Fighter. Equipping the F-35 to deliver nuclear bombs could raise its development cost by around $400 million across the program. But NATO members could easily share the financial burden.

Moreover, such investments would still be worthwhile even if the costs were higher. Washington's security guarantees to its NATO allies will stay credible only so long as U.S. nuclear weapons remain on European soil. As British Prime Minister David Cameron wrote in *The Telegraph* in April 2013, "Just relying on the United States to act on our behalf allows potential adversaries to gamble that one day the U.S. might not put itself at risk in order to deter an attack on the U.K."

By arguing that U.S. tactical nuclear weapons are militarily useless, Blechman and Rumbaugh miss the most important point of all: that such weapons are not exclusively military tools. They also serve the political purpose of assuring allies and deterring aggressors. That's why every U.S. president from Harry Truman to George H. W. Bush deployed nuclear weapons in times of crisis—and why President Barack Obama will most likely keep them in Europe.

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Blechman Replies

James Blackwell errs on two points. First, what he portrays as a military justification for keeping tactical nuclear weapons in Europe is really a political one. Blackwell suggests that U.S. tactical nuclear weapons are necessary to deter a Russian attack on U.S. allies and thereby reassure those allies. But Blackwell assumes that Washington would be willing to break its 70-year moratorium on the use of nuclear weapons when it could instead repel Moscow with conventional forces. Even if the Russians then chose to escalate the conflict by using nuclear weapons, NATO could respond with its large and flexible strategic nuclear arsenal, to say nothing of British and French nuclear forces. The only reason for Washington to keep tactical nuclear weapons in Europe, then, would be to signal its commitment to the continent's security.

Political considerations are certainly legitimate. If tactical nuclear weapons carried only the marginal expense of maintaining them, there would be no need to consider phasing them out. And if they provided even a minimal political advantage, they could remain in Europe indefinitely. But here's where the second flaw in Blackwell's argument emerges. Blackwell argues that tactical nuclear weapons are relatively cheap, ignoring the uncomfortable fact that U.S. defense spending is capped, meaning that every dollar Washington spends on tactical nuclear weapons is a dollar it cannot use elsewhere.

Regrettably, U.S. tactical nuclear weapons are now nearing the end of their effective lifetimes. If they are to function beyond the next ten years, the Pentagon will need to spend over $8 billion to extend their service lives and some $400 million to equip new aircraft to carry them. Those same funds could be used to purchase 50 to 60 F-35 Joint Strike Fighters, one of the U.S. Air Force's three highest spending priorities—which is precisely the sort of opportunity cost decision-makers must weigh against whatever political message the tactical nuclear weapons might convey.

The United States has remained committed to NATO's defense for more than 60 years, deploying U.S. troops to the continent and providing hundreds of billions of dollars' worth of financial support. Russian leaders would be insane to test that commitment by invading a NATO ally. Since tactical nuclear weapons offer the United States no military advantage, they are worthwhile only if its European allies see political value in them. Yet if European leaders really cared about U.S. tactical nuclear weapons, they would gladly help pay for them. Tellingly, however, they have been unwilling to do so.

Recent Books

Political and Legal

G. John Ikenberry

Political Order and Political Decay: From the Industrial Revolution to the Globalization of Democracy
BY FRANCIS FUKUYAMA. Farrar, Straus and Giroux, 2014, 672 pp. $35.00.

"After enlightenment, the laundry"—so goes an old Zen proverb. Even after grasping truth and universal knowledge, one must still do the chores and confront the drudgery of everyday life. In many ways, that is Fukuyama's message in this second volume of his masterful study of political development. Fukuyama became famous at the end of the Cold War after writing "The End of History?" In that essay (later expanded into a book), he asserted that the grand ideological questions about modernity and political order had been settled; as monarchy, fascism, and communism fell away, liberal democracy stood alone as a legitimate and successful system of government. Liberal democracies were far from perfect and continued to struggle with inequality, injustice, and poor performance. But these were primarily problems of "incomplete implementation"; unlike its vanquished rivals, liberal democracy was not plagued with inherently defective or self-contradictory principles.

In this book, 25 years later, Fukuyama announces quite clearly that implementation is not going well. Fukuyama builds on the ideas of his mentor, the political scientist Samuel Huntington, who argued that democratic governance, a healthy market economy, and social advancement all hinge on capable, impersonal, and incorrupt state institutions. Surveying the history of political development from the French Revolution to today, Fukuyama affirms and extends Huntington's view. Around the world, political development has followed different paths, as states have found various ways to combine the three key components of political order: state institutions, democratic accountability, and the rule of law. Fukuyama pays the most attention to the United States, which represented the vanguard of political development throughout the twentieth century but is now beset by "political decay," as Washington is losing its ability to govern and act in the public interest. Fukuyama wonders whether the forces of accountability and renewal will come to the rescue, as they have in past democratic crises, or whether liberal democracies are discovering that their guiding philosophy also suffers from flaws and internal contradictions.

It is impossible to read this book and not come away thinking it just might be time to reopen the debate about ideology and the direction of history. At the very least, there is a lot of laundry to do.

The End of American World Order
BY AMITAV ACHARYA. Polity Press, 2014, 150 pp. $59.95 (paper, $19.95).

In this lively polemic, Acharya takes aim at American thinkers who naively believe that rising non-Western states, such as China and India, will eventually join the U.S.-led international order as enthusiastic stakeholders. Such countries, he argues, hold different values from Western states, resent the special privileges that the United States retains as a hegemonic leader, and do not agree among themselves about what a post-American order should look like. Acharya foresees the emergence of a "multiplex" world, in which countries and regions will all (metaphorically) go to the same movie theater but end up watching different films. The book presents an imaginative vision of a less centralized, more pluralistic world, but it neglects to account for the forces of global integration that propelled non-Western states upward in the first place. The book also fails to appreciate the complex tension between non-Western countries' discomfort with U.S. dominance of international governance institutions and their support for the ideal of an open, rule-based international order that is not strictly "American" but has rather resulted from decades of push and pull among many states, ideologies, and agendas.

The Twilight of Human Rights Law
BY ERIC POSNER. Oxford University Press, 2014, 200 pp. $21.95.

Beginning with the Universal Declaration of Human Rights, adopted by the UN General Assembly in 1948, countries have signed on to a widening array of treaties and conventions designed to protect human rights and backed by an expanding set of international courts, commissions, and monitoring bodies. But has all this human rights law and activism actually improved people's lives? In this sharply argued book, Posner answers no. To be sure, a greater proportion of people around the world are freer today than ever before. But Posner argues that human rights law has been largely irrelevant to that improvement. Liberal democracies sign on to human rights treaties because they see the agreements as cost free, believing that they themselves already abide by the rules. Meanwhile, authoritarian states sign on solely for propaganda purposes and then find it fairly easy to flout the rules. Posner worries that the proliferation of human rights treaties encourages "rule naiveté": an illusion that Western norms can be applied and impartially enforced everywhere. He urges Western countries to focus instead on promoting economic development, which can achieve real and measurable gains in improving people's lives.

Writing History in the Global Era
BY LYNN HUNT. Norton, 2014, 208 pp. $25.95 (paper, $16.95).

Ever since the study of history became an academic profession in the late nineteenth century, historians have been primarily occupied with writing national histories. That approach has become less tenable in recent decades as globalization has gained momentum. Meanwhile, according to Hunt, the social and cultural theories that have dominated the field since the 1950s have grown stale. Studying identity, gender, class, and culture remains an essential task, but in doing so, scholars tend to focus on individuals and local settings, ignoring global structures and forces. Hunt therefore sees the recent turn toward "global history" as a promising trend. This approach not only allows scholars to see the growing connections between nations in today's world but also encourages the retelling of older histories from a global or transnational perspective. In Hunt's view, the challenge is to give the new global history more theoretical heft and coherence without resorting to teleological or narrowly Western-centric notions of modernity. This challenge is not unique to history; it is a problem at the core of all the social sciences.

Dictators at War and Peace
BY JESSICA L. P. WEEKS. Cornell University Press, 2014, 264 pp. $75.00 (paper, $24.95).

Commentators on international affairs often assume that authoritarian states tend to pursue unpredictable and aggressive foreign policies. In this important book, Weeks demonstrates that this simplistic view misses important variations in how autocrats make decisions about the use of force. In authoritarian states run by institutionalized parties or groups, such as the Soviet Union in the post-Stalin era and contemporary China, leaders face a surprising amount of domestic accountability over decisions to use force. Weeks argues that these states actually tend to take cautious and prudent positions in foreign policy, not unlike leaders who must run for reelection in democracies. In contrast, authoritarian states in which individual rulers and their immediate circles control the instruments of the state and the military, such as North Korea and Iraq under Saddam Hussein, tend to be less mindful of domestic opinion and more willing to initiate international conflict. Weeks' argument seems particularly relevant at the moment, since the resolution of a number of ongoing international standoffs might depend on whether certain countries—Iran and Russia, for example—behave more like the first type of authoritarian state or more like the second.

Economic, Social, and Environmental

Richard N. Cooper

The System Worked: How the World Stopped Another Great Depression
BY DANIEL W. DREZNER. Oxford University Press, 2014, 280 pp. $29.95.

Many believe that the financial crisis of 2008—from which the world has yet to fully recover—represented a failure of the international economic system. Drezner argues the contrary: although the system did not prevent the crisis or the subsequent recession, it did avoid a catastrophe on the order of the Great Depression of the 1930s, successfully mitigating an economic shock of even greater force than the one that hit the global economy in 1929. The summit meetings held by the G-20 during the crisis were loosely coordinated but provided a way for policymakers to share perspectives and ideas. And international financial institutions, especially the International Monetary Fund and the World Bank, rose to the occasion by offering enlarged and more flexible lending programs. Central banks, led and often aided by the U.S. Federal Reserve, also performed well. At the very least, they avoided the mistakes their predecessors made in the 1930s; as a result, significant fiscal stimulus occurred in most major countries. Drezner hesitates to forecast the future of the system, not least because serious misunderstandings among politicians and the public continue to distort views about the crisis and what lessons ought to be taken from it. But he convincingly argues that the system responded to a very real stress test surprisingly well.

Markets Over Mao: The Rise of Private Business in China
BY NICHOLAS R. LARDY. Peterson Institute for International Economics, 2014, 186 pp. $21.95.

A common view holds that economic reforms in China stalled or even were reversed during the past decade—an impression reinforced perhaps by the Third Plenum of the Chinese Communist Party, which convened in November 2013 and resulted in an official call for more market-oriented policies. But in this carefully documented study, Lardy shows that in reality, China's private sector has continued to grow and thrive for the past 15 years and now accounts for more than three-quarters of industrial production and a comparable share of investment in industrial assets. Moreover, China's private sector now attracts a growing (albeit still small) share of bank financing and enjoys notably higher rates of return than the country's public sector, suggesting that private businesses are likely to continue to outpace state-owned enterprises. To be sure, the latter still dominate important sectors of the Chinese economy, such as banking, oil, telecommunications, and tobacco. But their relative importance has greatly receded and will likely continue to do so. Such observations make Lardy's book an important addition to scholarship on China's complex and rapidly changing economy.

The End of Normal: The Great Crisis and the Future of Growth
BY JAMES K. GALBRAITH.
Simon & Schuster, 2014,
304 pp. $26.00 (paper, $16.00).

In explaining the financial crisis of 2008 and its effects, Galbraith positions himself outside the conventional conservative-liberal spectrum. In his view, technological change in recent years has significantly reduced the need for some forms of labor, lowering employment levels as some jobs have become obsolete and shifting the distribution of income away from labor and toward capital and wealthy superstars. That shift has not produced levels of demand sufficient to create significant numbers of jobs. This is a more nuanced version of the suggestion that the U.S. economy (and perhaps others) has moved into a period of so-called secular stagnation. Galbraith urges Americans to adjust their country's institutional structures—and their personal expectations—to accommodate a lower rate of growth than the one that prevailed during the past half century. He argues that U.S. economic policy should aim to provide greater income stability through increased social insurance, a higher minimum wage (which would reduce the demand for low-wage immigrant workers), and a higher estate tax. He also takes reasoned but forceful swipes at big banks, whose contributions to the well-being of the U.S. economy are highly doubtful, and criticizes the outdated and oversize national security sector.

Walter Lippmann: Public Economist
BY CRAUFURD D. GOODWIN. Harvard University Press, 2014, 424 pp. $35.00.

From the early 1920s until the mid-1960s, Walter Lippmann was among the most prominent American public intellectuals, a sought-after adviser to politicians and the author of many books and more than a thousand articles and columns for *The New Republic*, the *Herald Tribune*, and *The Washington Post*. Goodwin's worthy book serves to remind readers that Lippmann was more than a mere pundit. Lippmann was a committed liberal, in the European sense, meaning that he favored free markets and a limited role for government. But he was pragmatic rather than dogmatic, and he objected to the shrinking of liberalism into the notion that government's sole role is to protect property rights. Like his friend Friedrich Hayek, he abhorred monopolies, whether they were controlled by business or by unions, and he worried about the undue concentration of power in government hands—except during wartime, when he deemed such accumulated power necessary to defeat authoritarian Germany and Japan. He believed liberty had to be protected by good laws, which should include helping disadvantaged or unemployed people and taxing unearned income.

Trillion Dollar Economists: How Economists and Their Ideas Have Transformed Business
BY ROBERT E. LITAN. Wiley, 2014, 400 pp. $40.00.

"Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist," wrote John Maynard Keynes in 1936. Litan here sets out to explain a range of ideas that originated with academic economists and that subsequently influenced both economic policy and business practices—usually for good but occasionally for ill. He includes biographical sketches of many of those economists, including such luminaries as Paul Samuelson and Milton Friedman, but also less widely known figures, such as George Dantzig, a pioneer in operations research, and Alfred Kahn, who played a major role in airline deregulation. Litan focuses largely on microeconomic issues, on which economists tend to a agree more frequently than they do on macroeconomics; for example, most economists agree that incentives matter and that it is important to get them right. The topics covered by the book range widely: financial innovations (especially derivatives), matchmaking in labor markets (and in romance), auctions, the deregulation of transportation and communications, and data mining all receive attention. Litan also explores the possibility of applying economic ideas to the challenges of traffic congestion, rising health-care expenditures, and climate change.

Military, Scientific, and Technological

Lawrence D. Freedman

Cowardice: A Brief History
BY CHRIS WALSH. Princeton University Press, 2014, 304 pp. $27.95.

Why has nobody written this book before? "Coward" remains one of the English language's harshest epithets, but its meaning has become less clear. The term was once reserved for those who turned away from physical danger. But the more that societies come to appreciate the fact of human frailty, the less cowardice appears as a moral failing and the less censorious people become of behavior that not long ago would have led, in a military context, to a court-martial and even execution. At the same time, societies have become less tolerant of a different kind of cowardice: silence in the face of egregious wrongdoing. In this elegant and thoughtful discussion that draws on literature and films as well as military case law, Walsh thoroughly explores how the concept of cowardice has evolved as a result of changes in the way societies understand morality, human nature, and the nature of war. In the end, he argues, societies need a firm concept of cowardice; without it, they cannot grasp what it means to act courageously.

The Smell of Battle, the Taste of Siege: A Sensory History of the Civil War
BY MARK M. SMITH. Oxford University Press, 2014, 216 pp. $27.95.

Historians often ask readers to imagine the intense sights, sounds, and smells of battle. Smith goes one step further and explores how such sensory assaults affect the conduct of war itself. Soldiers become disoriented; their skin is irritated by scrapes and infections; their mouths are left dry by dust. They drink unclean water and eat unclean fruit. Smith gets into these gritty details by narrating some of the most important encounters of the American Civil War: the noise of the shelling of Fort Sumter; the confusion caused by the proliferation of different uniforms and badges at the First Battle of Bull Run; the stench of death at Gettysburg, which lingered from July to October; the hunger caused by the siege of Vicksburg; and the claustrophobic conditions faced by the crew of a crude Confederate submarine. A leitmotif of the book is the way the aristocrats of the antebellum South took pride in their refined tastes and how that particular sense of superiority was undermined by the sheer brutality of the war's violence.

The Perfect Kill: 21 Laws for Assassins
BY ROBERT B. BAER. Blue Rider Press, 2014, 336 pp. $27.95.

Assassination may well be an efficient use of force, but leaders are often wary of it for both moral and strategic reasons. But as many countries have been drawn into murky struggles against violent extremists, leaders have become more sanguine about "targeted killings," especially if they are carried out from a distance, using drones. Baer, a former CIA operative, tells the story of his search for Imad Mughniyeh, a skilled Hezbollah member with a long and deadly record of orchestrating bombings, kidnappings, and assassinations. Mughniyeh—whom Baer chooses to refer to by the nom de guerre Hajj Radwan—was himself eventually killed in 2008, although not by the CIA. (Hezbollah's leaders, and many others, contend that Israeli assassins did him in.) Baer explains that assassination requires dedication, self-discipline, and a degree of intimacy with one's target—all reasons why he thinks the United States is unlikely to ever do it very well. This makes for a lively and challenging read, although the focus on Lebanon, where political murders are almost routine, does not allow Baer much room to explore the impact of assassination on places where it is rare.

Clausewitz: His Life and Work
BY DONALD STOKER. Oxford University Press, 2014, 376 pp. $27.95.

Carl von Clausewitz was an outstanding young cadet in the Prussian army who never reached the high rank that he thought he deserved. In 1818, he was named director of the Prussian War College, an appointment he had not sought but that nonetheless gave him the time to work on his masterpiece, *On War*. Clausewitz died of cholera in 1831, having instructed his wife to organize the text and prepare it for publication. The book ultimately became a classic, and many experts in military affairs consider it the best book ever written on the subject. Stoker's biography focuses mostly on Clausewitz's military record, devoting just one chapter to the last 16 years of the Prussian's life, during which time he wrote *On War*. This is a well-written and valuable addition to the Clausewitz library, but it also serves as a useful history of the Napoleonic Wars, as Stoker draws on Clausewitz's sharp observations to illuminate some of the most important military engagements of that period.

The End of Intelligence: Espionage and State Power in the Information Age
BY DAVID TUCKER. Stanford University Press, 2014, 256 pp. $90.00 (paper, $25.95).

Conventional wisdom holds that new information technologies have had a transformational effect on security and intelligence; this book casts doubt on that assumption. Tucker explores how new technologies have affected the state's role as a collector and manipulator of information, examining how they have changed the nature of espionage and the quality of intelligence assessments. Tucker develops his argument methodically, looking at the role of information in counterintelligence and covert action, regular and irregular warfare. He concludes that the information age has been less transformational than supposed. Contrary to claims that new technologies have generally favored insurgents and revolutionaries, Tucker argues that they have likely benefited states even more. Although the book is not always convincing, it presents a serious and challenging analysis.

The United States

Walter Russell Mead

Worthy Fights: A Memoir of Leadership in War and Peace
BY LEON PANETTA WITH JIM NEWTON. Penguin Press, 2014, 512 pp. $36.00.

Panetta came to Washington during the Nixon administration as an idealistic young Republican. He later switched parties, rose through the Democratic ranks in Congress, and served as President Bill Clinton's director of the Office of Management and Budget and chief of staff and as President Barack Obama's director of the CIA and secretary of defense. This is a distinguished trajectory by any standard, and Panetta's candid memoir offers a useful window into recent U.S. history. A few references to policy disagreements with Obama dominated the discussion of the book when it first appeared last year; the controversy seems overblown, as the book's assessment of Obama is on the whole rather positive. Panetta's most valuable insights involve federal budgets; few understand the subject as well. His account of how the Clinton administration was able to balance its final budgets shows how the U.S. political process can lead to good outcomes; his account of the sequester during the Obama administration shows how it can lead to terrible ones.

Outpost: Life on the Frontlines of American Diplomacy
BY CHRISTOPHER R. HILL. Simon & Schuster, 2014, 448 pp. $30.00.

Hill, an eminent U.S. diplomat, focuses on three episodes in this memoir: his work with the U.S. envoy Richard Holbrooke during the Balkan crises in the Clinton administration, his attempt to reach a nuclear agreement with North Korea during President George W. Bush's second term, and his tenure as U.S. ambassador to Iraq under President Barack Obama. Hill, a masterful prose stylist who carries on a long tradition of literary excellence among U.S. diplomats, is generous to all the presidents and secretaries of state he served. He reserves his ire for the neoconservatives he believes attempted to sabotage the North Korean negotiations and for U.S. senators whose posturing and obstructionism further complicated the already difficult jobs of U.S. diplomats. The sections on Hill's time in Iraq are deeply troubling: the overgrown U.S. embassy in Baghdad was chaotic and dysfunctional, and Washington never seems to have truly faced the sectarian and political problems that have now resulted in renewed tumult and war in that unhappy country.

America's Pastor: Billy Graham and the Shaping of a Nation
BY GRANT WACKER. Belknap Press, 2014, 448 pp. $27.95.

Billy Graham was the most significant religious presence in American life from the late 1940s until well into the current era. Graham brought the revival movement and evangelical Protestantism into the modern world. His repudiation of segregation and his retreat from fundamentalism and moves toward a more complex view of the relationship between the Bible and contemporary thought helped reshape the American cultural landscape. Wacker's engaging, comprehensive, and sympathetic (although not uncritical) study of Graham's multifaceted career is an admirable introduction both to Graham and to the evangelical movement he worked so hard to build. A product of fundamentalist Christianity during the Jim Crow era in the rural South, Graham transformed himself into someone who could reach a much wider audience: in 2005, at the last of his open-air religious "crusades," in New York City, the majority of the more than 100,000 attendees were people of color. Graham, now 97, no longer hits the revival trail, and the religious synthesis he helped popularize does not seem to be reaching younger Christians. Nevertheless, the individualistic religious tradition that shaped Graham's worldview remains a potent force in American culture.

Eisenhower: A Life
BY PAUL JOHNSON. Viking, 2014, 144 pp. $25.95.

Johnson likes Ike, and he thinks you should, too. This short and breezy volume makes the case that President Dwight Eisenhower was a military leader of genius, a successful university president, an exemplary husband, and a great chief executive of the United States. At times, Johnson seems so intent on his hagiographic mission that he gives short shrift to anything that casts doubt on Eisenhower's virtue or genius, and this book is unlikely to stand as a serious contribution to the literature on the 34th president. Nevertheless, it is an entertaining read, spiced with malicious sideswipes at Eisenhower's left-wing intellectual critics, and the book will serve well as an introduction to this important historical figure.

Western Europe

Andrew Moravcsik

Eichmann Before Jerusalem: The Unexamined Life of a Mass Murderer
BY BETTINA STANGNETH. TRANSLATED BY RUTH MARTIN. Knopf, 2014, 608 pp. $35.00.

In 1961, the political philosopher Hannah Arendt visited Israel to report on the trial of Adolf Eichmann, one of the main Nazi organizers of the Holocaust. In the resulting book, *Eichmann in Jerusalem*, Arendt coined the phrase "the banality of evil" to convey her central thesis: unspeakable crimes are carried out not by ideological fanatics but by ordinary, law-abiding officials, ignorant of the bigger picture and merely following normal bureaucratic routines. Yet this new book convincingly shows that Eichmann was no banal bureaucrat. He was a manipulative and unrepentant Nazi who cunningly deceived Arendt and many others at his trial by assuming the guise of a timid official. Stangneth's research reveals that during the 15 years Eichmann spent hiding out in Argentina after World War II, he met with fellow Nazi fugitives, toiled away on a self-aggrandizing autobiography, and professed "no regrets" about the Holocaust—except that it hadn't been thorough enough. Ultimately, the book reminds readers that in politics, even a banal person's beliefs can be truly evil—and that in scholarship, even the cleverest conceits ultimately give way to banal historical research.

America and Britain: Was There Ever a Special Relationship?
BY GUY ARNOLD. Hurst, 2014, 240 pp. $35.00.

Global Rules: America, Britain, and a Disordered World
BY JAMES E. CRONIN. Yale University Press, 2014, 416 pp. $45.00.

Arnold's book is neither the first nor the most profound to debunk the idea of an Anglo-American "special relationship." But this history of efforts by postwar British leaders to offset their country's decline by cozying up to the United States is quite readable, policy relevant, and, beneath its bland surface, provocative. Arnold argues that the contemporary Anglo-American relationship is a bit of a sham: it demands British loyalty and subservience without securing any consistent American quid pro quo. The United Kingdom would be better served, he contends, by charting a more independent path: establishing closer links to European countries, engaging more with China, reaching a détente with Russia, withdrawing from NATO, reducing British involvement in military interventions around the world, removing U.S. bases from British territory, and increasing British support for global organizations such as the International Criminal Court.

In contrast to Arnold, Cronin sees the Anglo-American relationship as especially meaningful and valuable. He contends that British Prime Minister Margaret Thatcher and U.S. President Ronald Reagan established the most important global norm of the post–Cold War world: namely, that all states must converge on a form of democratic governance that fosters free trade abroad and pro-market policies at home. Cronin makes a number of important points, but his sympathy for the idea of a dominant Anglo-American neoliberal wave sometimes blinds him to the irony, ambiguity, and pluralism of contemporary global history: for a good example, one need look no further than China, where the Communist Party has become one of the world's most successful practitioners of capitalism.

Endgame for ETA: Elusive Peace in the Basque Country
BY TERESA WHITFIELD. Oxford University Press, 2014, 402 pp. $35.00.

Europeans have become accustomed to reports of anti-immigrant protests, threats from international terrorists, and regional separatism. Stories of compromise and integration receive less attention from the news media. But in recent years, a quiet success has taken place in Spain's historically restive Basque Country. This book describes the peace process that recently resulted in a definitive end to what Whitfield correctly terms "the last organized armed insurgency in Western Europe." Her account traces the decades-long negotiations between

Basque separatists and Madrid, a process that began during the regime of General Francisco Franco. Both sides were frequently intransigent and beset by infighting. And by the time Madrid had become more flexible on the question of Basque autonomy, around ten years ago, violent splinter groups within the Basque separatist movement were launching a last-ditch terrorist campaign, which extended the conflict for nearly a decade. The precise position of the Basque Country within Spain remains unclear, but the two sides will likely be able to settle the remaining issues peacefully.

*Shaping Europe: France, Germany, and Embedded Bilateralism From the Elysée Treaty to Twenty-First Century Politic*s
BY ULRICH KROTZ AND JOACHIM SCHILD. Oxford University Press, 2013, 320 pp. $99.00.

At the core of contemporary Europe lies the bilateral relationship between France and Germany. These two countries have been at the center of almost every European policy initiative during the past half century, in just about every area: trade, the euro system, defense, regulation, immigration, EU enlargement, and so on. What accounts for the success of this joint leadership role, and is it likely to continue into the future? One way to answer those questions is to note that for all their cultural and social differences, the two countries are formally quite similar: both are democracies that have resolved their main internal ideological conflicts, and both face similar opportunities and external threats. But Krotz and Schild believe that such parallels explain very little and instead argue that the success of the Franco-German duo should be seen as the result of creative leadership by statesmen such as France's Charles de Gaulle and François Mitterrand and Germany's Konrad Adenauer and Helmut Kohl. They created a unique symbolic relationship, committed to the idea of overcoming past conflicts and establishing bilateral projects and consultative institutions. Franco-German reconciliation became a self-fulfilling prophecy, as publics, politicians, and officials began to expect and promote further cooperation over time.

Western Hemisphere

Richard Feinberg

Constructing Democratic Governance in Latin America. 4th ed.
EDITED BY JORGE I. DOMÍNGUEZ AND MICHAEL SHIFTER.
Johns Hopkins University Press, 2013, 408 pp. $29.95.

The Resilience of the Latin American Right
EDITED BY JUAN PABLO LUNA AND CRISTÓBAL ROVIRA KALTWASSER.
Johns Hopkins University Press, 2014, 392 pp. $34.95.

Two recent books offer a chance to take stock of the political and ideological state of play in Latin America. Domínguez and Shifter's volume is full of sharp insights—and some good news. In their summary chapters, the editors applaud Latin American countries' deepening commitment to democratic institutions; freer, fairer, and more open elections; better governance; innovations in policymaking; and efforts to increase the prominence of women in leadership roles. Of course, many problems remain. The commodities boom of the past decade has strengthened all of the region's rulers, including those with authoritarian traits. In some countries, narcotics trafficking has fueled gang violence that has overwhelmed law enforcement. As commodity markets cool off, perhaps the most important question across the region is whether democratic governments will be able to meet the rising expectations of their countries' emerging middle classes. These issues and many others are covered in solid, well-informed chapters on Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. Other chapters explore constitutional reforms, the mass media, security challenges, and the natural resource boom. The writing is sophisticated enough to interest specialists but accessible enough for lay audiences.

The wave of democratic reform and progress in Latin America has posed a challenge to right-wing groups and parties across the region, which can no longer rely on military coups to protect their interests, as they did in the past. And yet conservative politics are still a major force in the region. Luna and Kaltwasser's volume addresses this puzzle: When opinion polls find that the typical Latin American voter tends toward the left and shares leftists' preferences for income redistribution and state intervention in the economy, what explains the resilience of the right and its less popular pro-market stances? Taken together, the contributions to this book suggest an answer: the right exercises power by mobilizing technocrats to shape the policymaking process, using the mass media to frame the public agenda, and directly lobbying elected officials. To combat the left's advantages at the ballot box, the right avoids directly addressing issues of redistribution and wealth and focuses on hot-button questions of morality and religion, law and order, and government corruption. In general, the mostly American and British contributors seem not particularly sympathetic to their subjects—which is unsurprising, since few political scientists educated in the United States or the United Kingdom identify with rightist ideologies in Latin America. Nevertheless, by filling a gap in the scholarly literature, *The Resilience of the Latin American Right* provides a valuable, wide-ranging survey of the region's understudied right-wing parties, personalities, and programs.

The Washington Dissensus: A Privileged Observer's Perspective on US-Brazil Relations
BY RUBENS BARBOSA. Vanderbilt University Press, 2014, 272 pp. $69.95.

His Own Man
BY EDGARD TELLES RIBEIRO. TRANSLATED BY KIM M. HASTINGS. Other Press, 2014, 352 pp. $17.95.

Barbosa, who served as Brazil's ambassador to Washington from 1999 to 2004, assesses U.S. diplomacy with a condescension born of wounded pride—a common feeling among his peers in Latin American diplomatic corps. But the distinguished diplomat's hard-hitting memoir focuses its main attacks on his own country's leadership, firing point-blank shots at then President Luiz Inácio Lula da Silva and his foreign minister, Celso Amorim. Barbosa contends that the Lula administration's anti-American posture harmed Brazilian national interests by foolishly wasting many opportunities to make real progress on promising U.S.-Brazilian agreements and by undermining Brazilian efforts to win a permanent seat on the UN Security Council. In devastating detail, Barbosa portrays Brazil's diplomats as confused about their fundamental purpose and undecided as to just what their country wants out of its relations with the United States—a lack of self-knowledge that only exacerbates the mistrust between Brasília and Washington. Barbosa's provocative broadside will likely accelerate the ongoing debate in Brazil over how best to exploit its position as an emerging regional power.

The troubled U.S.-Brazilian relationship also provides the backdrop for the novel *His Own Man*. The book's climactic scene involves a confrontation between the novel's narrator, a Brazilian diplomat stationed in Los Angeles, and a former chief of the CIA station in Brasília, now retired in La Jolla, California, whose garage is stacked with documents detailing Washington's covert attempts to foment anticommunist military coups in Latin America in the 1970s. "Maybe that's why we stand alone today . . . isolated as hell," the old spook muses, "unable to deal with a world that for the most part despises us." The historical memories of Americans are famously short, and Ribeiro, a veteran Brazilian diplomat, clearly wants to remind readers in the United States of the cost of U.S. support for the military dictatorship that ruled Brazil from 1964 until 1985—and of the scars carried by people throughout Latin America whose lives were forever altered by the torture and murders carried out during the Cold War by Washington's authoritarian allies in the region. As *His Own Man* makes clear, that legacy helps explain the attitudes and behaviors of today's elites in Brazil—members of the generation that suffered under military rule—and their lingering distrust of U.S. power.

At Night We Walk in Circles
BY DANIEL ALARCÓN. Riverhead Books, 2013, 384 pp. $27.95 (paper, $16.00).

Novels about the immigrant experience abound, but Alarcón offers an unusual spin on the genre: a tale about those left behind, in this case in an unidentified South American country that closely resembles the author's native Peru. The protagonist, an aspiring actor, never fully recovers from his older brother's emigration to California, which he interprets not as an act of adventurous entrepreneurship but rather as a cruel abandonment. Alarcón captures the milieu in Peru at the turn of the millennium, when the country was still reeling in the aftermath of a virulent civil war: disoriented lower-middle classes, frustrated artists, overcrowded prisons, a ubiquitous drug trade, and a new culture of commercialism. He artfully captures the dismal melancholy of Lima and the loneliness of the Andean highlands, the numbing winds blowing through desolate villages emptied of young people, who have left to seek better opportunities elsewhere. A suspenseful page-turner, *At Night We Walk in Circles* also features an anxious love triangle, in which the central female figure, Ixta, is at once irresistible, heartless, careless, and confused: a metaphoric stand-in, perhaps, for Peru itself.

Eastern Europe and Former Soviet Republics

Robert Legvold

Stalin. Vol. 1, *Paradoxes of Power, 1878–1928* BY STEPHEN KOTKIN. Penguin Press, 2014, 976 pp. $40.00.

Kotkin's biography of Joseph Stalin is already monumental—and this is just the first entry in a planned trilogy. Stalin emerges here as a more vivid and complete figure than he does in countless other biographies. And the history surrounding the Soviet leader, as Kotkin reconstructs it, has a texture and arresting detail lacking in prior studies. The period Kotkin covers spans from Stalin's birth in 1878 to the eve of Soviet collectivization and Stalin's consolidation of power, in 1928. Kotkin manages to capture how a figure as larger than life, influential, and twisted as Stalin came to be by expanding the book's boundaries beyond Russia and the Soviet Union during Stalin's time to include other parts of the world and other historical eras. In so doing, Kotkin reveals how Stalin's sense of geopolitical strategy and ability to seize opportunities shaped him, defined Russian and Soviet society, and determined international outcomes. Kotkin also shows how prior epochs and historical figures paved the way for the emergence of a person—or perhaps a phenomenon—as outsized as Stalin.

Siberia: A History of the People BY JANET M. HARTLEY. Yale University Press, 2014, 312 pp. $38.00.

Siberia accounts for more than three-quarters of modern Russia's territory and spans eight of the country's 11 time zones but is home to just 30 million people. Images of Arctic winters, the Soviet gulag, and infinite wilderness tend to shape popular conceptions of Siberia. But in reality, the region is vastly more rich and varied, and its history, as related in this sweeping but compact account, features a wild diversity of settings, events, and inhabitants. Hartley's book is a work of social, not political, history, and her primary focus is people: Cossacks, peasants in flight, indigenous groups pushed aside, political exiles, convicts, hunters, trappers, and oil men. Her stories unfold in villages and towns, in the military garrisons that secured this vast space, and in the prison camps where so many perished. Hartley cares most about the dramatic juxtapositions that characterize Siberia: free and unfree people, settlers and natives, indigenous beliefs and imported religions. In her book, Siberia emerges as an intricate, colorful mosaic, not a barren black-and-white photo.

Putin's Kleptocracy: Who Owns Russia? BY KAREN DAWISHA. Simon & Schuster, 2014, 464 pp. $30.00.

"The story of this book," Dawisha announces at its outset, is the "hope for political revanche," by which she evidently means the Putin regime's retaliation for Russia's humiliation and weakness after the collapse of the Soviet Union. The bulk of the book concerns money—dirty money, in massive quantities—and the marvelously circuitous ways it has been amassed by Russian President Vladimir Putin, those around him, and the billionaires at one remove who kowtow to Putin's regime. Dawisha's book stands as the most detailed indictment of the venality that she argues has marked every step of Putin's career. But the "political revanche" portion of her argument is less persuasive. She makes the case that from the very start, Putin and his circle planned to take Russia down an authoritarian path. But she is a bit fuzzy on just how much control Putin exerts over Russia's kleptocracy and on how important he was to its emergence: indeed, her own evidence suggests that it was in place well before Putin became president. His contribution has been to increase the kleptocracy's size.

Constructive Illusions: Misperceiving the Origins of International Cooperation
BY ERIC GRYNAVISKI. Cornell University Press, 2014, 224 pp. $39.95.

Grynaviski challenges conventional wisdom by arguing that international cooperation is often the product of misunderstandings rather than shared views. Indeed, if governments knew just how distinct others' perceptions were from their own, they would make far fewer deals. This is an intriguing argument, as counterintuitive arguments often are. Grynaviski uses the period of U.S.-Soviet détente in the early 1970s to illustrate how the outlooks each party falsely attributed to the other permitted a general easing of tensions and made possible some specific agreements, such as the 1972 Anti-Ballistic Missile Treaty. Grynaviski convincingly argues that the Nixon administration miscalculated the likely Soviet reaction to U.S. proposals and thus trapped itself into an agreement it had not originally intended to achieve. Less persuasive is the book's larger argument about the overall positive effects such misperceptions had on the Cold War. Grynaviski concludes with a fair and lucid exploration of some explanations for détente's ultimate failure, all of which he faults for relying too much on a single factor. He is right: but then again, the same complaint could be made about his own approach.

Moscow in Movement: Power and Opposition in Putin's Russia
BY SAMUEL A. GREENE. Stanford University Press, 2014, 296 pp. $90.00 (paper, $25.95).

The image of Russian civil society as passive and cowed by the Kremlin misses the mark, Greene argues in this subtle and well-substantiated study. Greene spent 13 years in Russia observing, thinking about, and talking about the relationship between the Russian state and Russian citizens. That experience forms the empirical foundation for his insightful analysis of Russia's peculiar form of authoritarianism. He grounds his discussion in an extremely efficient and succinct review of the evolving concept of civil society, beginning with the ideas of Locke and Rousseau and working his way to the theories that dominate contemporary social science. Out of this exercise, he produces his own working definition of the term "civil society": "the nonviolent means by which individuals collectively seek sovereignty vis-à-vis the state." By his reckoning, the "sporadic, low-level protests" that occur in Russia and "the antagonistic state responses they generate" suggest that the Russian political scene is less monolithic than it often seems.

Presidential Decrees in Russia: A Comparative Perspective
BY THOMAS F. REMINGTON. Cambridge University Press, 2014, 188 pp. $85.00.

At first blush, there would seem to be a wide gap between a "presidential decree" in the Russian context and an "executive order" issued by a U.S. president. Remington, however, makes precisely that comparison, and he also considers how today's Russian decrees compare to those issued by the tsars and Soviet rulers. Even in repressive systems, governing is a complex business, and lining up the necessary bureaucratic and legislative pieces involves complicated strategic calculations. Remington, a seasoned and exceedingly careful scholar, concludes that Russian President Vladimir Putin has to carefully weigh the costs and benefits of issuing presidential decrees on matters as fundamental as institutional reform and as narrow (albeit emotional) as changing the national anthem. In this way, his situation is not dissimilar to the one U.S. President Barack Obama faces when considering whether to work with Congress or govern through executive authority alone.

Middle East

John Waterbury

Understanding the Political Economy of the Arab Uprisings
EDITED BY ISHAC DIWAN. World Scientific, 2014, 308 pp. $56.00.

Democratization and Authoritarianism in the Arab World
EDITED BY LARRY DIAMOND AND MARC F. PLATTNER. Johns Hopkins University Press, 2014, 424 pp. $34.95.

Taking to the Streets: The Transformation of Arab Activism
EDITED BY LINA KHATIB AND ELLEN LUST. Johns Hopkins University Press, 2014, 368 pp. $59.95 (paper, $29.95).

The Arab Uprisings Explained: New Contentious Politics in the Middle East
EDITED BY MARC LYNCH. Columbia University Press, 2014, 352 pp. $90.00 (paper, $30.00).

The uprisings of 2011 were unprecedented in recent Arab history, as civilians took to the streets in massive numbers not to protest rising prices or condemn foreign governments but rather to demand the downfall of their own leaders. Arab countries have long ranked among the least free in the world, and the uprisings suggested that perhaps the region was about to come in from the autocratic cold. In four recently edited volumes, experts try to make sense of the uprisings and the subsequent regime changes, as well as the reversals and bloody stalemates that followed. Together, they shed some light on the basic question now facing the region: Is autocracy back for good, or did the protests signal the start of an irreversible march toward greater democracy that is merely stalled at the moment?

In considering the origins of the uprisings, these volumes tend not to emphasize structural factors, such as the region's high level of youth unemployment or its "youth bulge." One might assume that, for example, a sevenfold increase in the number of unemployed educated people—which Tunisia experienced between 1994 and 2011—would be a major contributor to civil unrest. But the expert analyses collected by these four books tend to see other kinds of issues as more important in explaining why the uprisings occurred.

Of these volumes, Diwan's includes the most commentary on the structural factors behind the uprisings, and a credible hypothesis emerges from some of its essays: in recent decades, neoliberal reforms enacted by Arab states combined with corrupt privatization schemes and crony capitalism to undermine the economic base of the middle class, driving a portion of the middle class to ally with the lower-middle class and the poor. Some contributors to Diwan's book also make use of "transitology" scholarship that looked into the democratic transitions in Latin America and eastern Europe in the 1990s. This research suggests that transitions to democracy involve deals made among four distinct groups. On the one side is civil society, which is divided into moderates and radicals; on the other side are autocratic regimes, which are themselves divided into reformers and hard-liners. If civil society moderates and regime reformers hold sway and can arrive at an understanding, then a transition to democracy is possible. But if radicals and hard-liners dominate, their intransigence makes a transition virtually impossible.

In the past four years, Egypt has produced both of those outcomes. In 2011, elements of the Mubarak regime that were open to change (including some in the military) made a series of deals with moderate elements of the opposition (especially within the Muslim Brotherhood), leading to modern Egypt's first freely elected government. Then, in 2013, when the new president, a former Brotherhood leader, revealed his antidemocratic intentions, the military turned hard-line, ousted the president, gunned down his supporters when they rallied in protest, and established a new regime that is even more autocratic than Hosni Mubarak's was.

Meanwhile, the Arab monarchies proved themselves to be the most resilient autocracies in the region, facing hardly any challenge at all during the upheaval. With the exception of Bahrain, none of the monarchies experienced street protests like the ones that convulsed Arab republics. In an essay in Diamond and Plattner's book, Sean Yom and F. Gregory Gause explain the monarchs' stability by emphasizing their oil wealth, their backing by broad coalitions, and the strong support the monarchs enjoy from outside powers, including the United States. Not all monarchs enjoy those assets, however; nor are such advantages exclusive to monarchies. In their contribution to the Diamond and Plattner volume, Jason

Brownlee, Tarek Masoud, and Andrew Reynolds take a different tack, stressing another important factor: hereditary succession, which, if carried out successfully, demonstrates the loyalty of the military and the intelligence services to the regime.

The example of Kuwait reveals some of the limits of these analyses. The country is a monarchy and also a democracy of sorts, as Mary Ann Tétreault points out in an essay in Khatib and Lust's book. Moderates within Kuwaiti civil society have confronted and bargained with reformers in the regime since at least 1939, even though the monarchy's control of the country's oil wealth should relieve the regime of any sense of accountability, and even though none of the country's factions—including its civil society moderates—appear committed to genuine democracy.

For leaders across the region, the issue of reform has always posed a challenge, and perhaps never more so than today. On the one hand, even token reform might prove to be a slippery slope that leads inevitably to the undoing of autocracy. On the other hand, perhaps the despots can maintain themselves indefinitely through what the political scientist Steven Heydemann has elsewhere called "recombinant authoritarianism": the ability to adapt, put in place phony reforms, and burnish democratic symbols without actually allowing for democratic change. Essays in Lynch's volume and in Diamond and Plattner's note that recent opinion polls suggest that in the aftermath of the uprisings, Arab publics are now less likely to play along with such shams and will insist that any future reforms be genuine. But the jury is still out. Although autocracies elsewhere have successfully evolved through reform, none has done so in the Arab world.

The role of religion in the post-uprising era also remains unclear. On this topic, Michael Hoffmann and Amaney Jamal make an intriguing observation in their contribution to Lynch's book: compared with their elders, young Arab Muslims are less religiously observant yet more accepting of political Islam and more sympathetic to the concept of sharia. They are also more likely to protest than to vote. This seems like a combustible combination of attitudes and behaviors.

In thinking about the future of the region, it's important to remember that political transitions are often shaped by external powers. The United States countenanced heavy-handed repression in Bahrain in 2011 and seems unwilling to forcefully confront Egypt's new regime. And the regional power with the deepest pockets, and hence the greatest influence, is antidemocratic Saudi Arabia. In the Arab world, those who pay the piper are not calling the tune of democracy.

Asia and Pacific

Andrew J. Nathan

The Hundred-Year Marathon: China's Secret Strategy to Replace America as the Global Superpower
BY MICHAEL PILLSBURY. Henry Holt, 2015, 336 pp. $28.00.

Fire on the Water: China, America, and the Future of the Pacific
BY ROBERT HADDICK. Naval Institute Press, 2014, 288 pp. $37.95.

The South China Sea: The Struggle for Power in Asia
BY BILL HAYTON. Yale University Press, 2014, 320 pp. $35.00.

Pillsbury and Haddick articulate some of the reasons behind Washington's increasing anxiety about China. After decades of close contact with senior Chinese military officials, Pillsbury has come to believe that China aims not to simply defend its core interests, nor to merely match the power of the United States, but rather to achieve global economic, cultural, and military dominance. He sees China's current assertiveness as the opening phase of a long-term effort to make the world safe for Chinese-style thought control, disregard for the environment, authoritarian rule, and arms proliferation. Despite the virtual inevitability that China will ultimately boast a far larger economy than the United States, Pillsbury contends that Washington can maintain preeminence as long as it begins to take the competition seriously instead of counting on common interests to generate cooperation from Beijing. Pungently written and rich in detail, this book deserves to enter the mainstream of debate over the future of U.S.-Chinese relations.

Haddick seconds Pillsbury's concerns. He calls U.S. military strategy in Asia "archaic" because it has not fundamentally changed since the early Cold War period, when the United States faced no Asian adversary with long-range weapons systems. Today, China has developed missiles, fighter-bombers, and submarines capable of crippling U.S. bases and aircraft carriers up to 1,200 miles from Chinese shores, along with fighter aircraft and surface-to-air missiles to protect military bases on Chinese soil. The Pentagon's answer to these developments is called "air-sea battle," but Haddick believes the strategy is unworkable. He proposes that Washington pursue a number of potentially risky alternatives, including measures that would destabilize China internally, the acquisition of long-range stealth aircraft, and the development of intermediate-range missiles, which are currently banned by the Intermediate-Range Nuclear Forces Treaty.

Hayton, a journalist based in the United Kingdom, is more sanguine in some ways. He argues that even with China's military buildup, China's navy is technologically 20 years behind its U.S. counterpart, that Washington's solid relationships with many Asian countries give the United States a distinct advantage over China, and that the tough talk of Chinese military hawks is merely tactical bluffing. But his masterful history of the territorial disputes in the South China Sea supports Pillsbury's and Haddick's concern that China is pursuing a so-called salami-slicing strategy to gain dominance of that body of water. Hayton argues that China's territorial claims there, which run afoul of international law, are rooted in a sense of entitlement and in strategic interests—and not, as many observers contend, in a desire to secure undersea oil resources. He believes that for this reason, such claims are unlikely to be resolved by diplomatic bargaining or international courts. Although cooperation would be a better way out for all sides, Hayton concludes that "the logic is toward conflict in the South China Sea."

Liem Sioe Liong's Salim Group: The Business Pillar of Suharto's Indonesia
BY RICHARD BORSUK AND NANCY CHNG. Institute of Southeast Asian Studies, 2014, 574 pp. $79.35.

This study of Indonesia's most successful entrepreneur, who died in 2012 at the age of 95, is a contribution to both business history and political history. The story of the Salim Group's expansion into flour, cement, banking, noodles, and countless other fields illuminates the symbiotic relationship between businesspeople and politicians during the reign of Suharto, Indonesia's president from 1967 until 1998. The Javanese-born Suharto and the Chinese-born Liem Sioe Liong were both tough men with smiling exteriors who held mystical beliefs and were fascinated by money. Suharto provided Liem with access and protection, and Liem served as a discreet source of funds for Suharto's political and personal use. In the 1990s, Liem struggled to keep his footing as the increasingly erratic Suharto launched rhetorical attacks on the business class, dominated by ethnic Chinese, while tolerating rampant corruption by his cronies and even his own children. Borsuk and Chng's sources were not shy about explaining how business was really done during Suharto's time—and, no doubt, is still done—not only in Indonesia but also throughout Asia.

The Pariah Problem: Caste, Religion, and the Social in Modern India
BY RUPA VISWANATH. Columbia University Press, 2014, 416 pp. $60.00.

The struggle of India's "untouchables" for equality is usually understood as a challenge to Hindu tenets that hold such people to be inherently tainted. But this innovative book argues that historically, the untouchables (or Dalits) were excluded less as a result of religious beliefs than on account of their economic role as bonded agricultural laborers. Viswanath explains that the religious aspect of untouchability began to take precedence only in the late nineteenth and early twentieth centuries. Protestant missionaries started the process by trying to convert Dalits to Christianity. The landed castes' response to this perceived threat was to claim that subordinating the Dalits was a native custom that should be protected according to the British colonial policy of respect for local religious norms. The British chose to view the Dalits' condition as the result of a voluntary contract, ignoring the ways in which the Dalits' ritual status robbed them of economic autonomy. Even after independence, the idea of untouchability as a deep-rooted cultural and religious custom has prevented a full assault on what continues in many places to constitute a form of hereditary slavery.

Powerful Patriots: Nationalist Protest in China's Foreign Relations
BY JESSICA CHEN WEISS. Oxford University Press, 2014, 360 pp. $99.00.

Are Chinese policymakers driven to take more assertive foreign policy positions by the pressure of nationalist public opinion, or do they merely use that opinion as a tool to strengthen their hand in negotiations with other powers? Weiss presents a nuanced but clear answer in favor of the latter position. Her study of 92 protest attempts from 1985 to 2012 finds that authorities restrained or prevented more demonstrations than they allowed but shows that some flexibility proved useful for diplomatic signaling. For example, in 2001, the Chinese government repressed a nascent anti-American protest in order to indicate its willingness to negotiate a solution to the crisis generated by a collision between a Chinese fighter jet and a U.S. spy plane. In 2005, on the other hand, Beijing added muscle to its campaign against the proposal to grant Japan a permanent seat on the UN Security Council by allowing anti-Japanese protests. Weiss argues that attempting to exploit protests in this way also poses risks: it can cheapen the desired signaling effect, and it can provide useful cover for demonstrators who actually want to criticize the Chinese government itself.

The Cultural Logic of Politics in Mainland China and Taiwan
BY TIANJIAN SHI. Cambridge University Press, 2014, 280 pp. $95.00.

One of the most vexing questions for scholars of China is whether Chinese political culture inherently supports authoritarian rule. Solid answers to that question have eluded political scientists for decades. This book by the late China scholar Shi represents an audacious and creative attempt to solve the puzzle. Through a sophisticated statistical analysis of survey data collected between 1993 and 2008 in mainland China and Taiwan, Shi reaches several surprising—and undoubtedly provocative—conclusions. He finds that structural change (such as economic development) and institutional transformation (democratization, in the case of Taiwan) have had no impact on cultural attitudes toward authority in the two societies. Because of the influence of traditional culture, Chinese people tend to be more trustful of and less confrontational toward authority. More important, the Chinese cultural conception of democracy differs fundamentally from its Western counterparts. In the West, democracy is defined in procedural terms. But in traditional Chinese culture, democracy is viewed as "guardianship." If Shi's argument is correct, the Chinese Communist Party's rule may endure longer than many expect.

MINXIN PEI

Africa

Nicolas van de Walle

State-Building and Multilingual Education in Africa
BY ERICKA A. ALBAUGH. Cambridge University Press, 2014, 336 pp. $99.00.

Given how difficult it can be to create a sense of nationhood in places where people construct their identities from many different sources, one might think that large African states would try to educate their citizens in a single national language in order to promote national cohesion. But in fact, four out of five African countries officially encourage education in multiple local languages. Albaugh argues convincingly that this counterintuitive development stems from an odd alliance that formed in the 1990s among elites in African countries, donor states, and international nongovernmental organizations that worked on education. The democratization of the region in the 1990s forced African governing elites to find new tools for maintaining their power. By helping strengthen regional identities, local language instruction represented a way for central authorities to divide and conquer, since it discouraged subnational groups from forming opposition blocs. Meanwhile, Western donor states, especially France, believed that official education in vernacular languages would also make it more likely for Africans to learn European languages. Finally, nongovernmental educational organizations tended to prize cultural diversity over the exigencies of nation building and lobbied on behalf of multilingualism. Theoretically rich, well documented, and sophisticated in its argumentation, Albaugh's book is one of the finest available on the origins of public policy and the process of state building in Africa.

Toxic Aid: Economic Collapse and Recovery in Tanzania
BY SEBASTIAN EDWARDS. Oxford University Press, 2014, 320 pp. $55.00.

Despite the title of this book, the heroes of Edwards' entertaining account of Tanzania's development in the 1980s and 1990s are the international donors who imposed reforms on the country's socialist government after President Julius Nyerere's policies had ruined the economy. In the immediate postindependence era, international aid had provided support to those same counterproductive policies—hence the toxicity referred to in the title. But by the early 1980s, the majority of donors had withdrawn their support and begun to condition future aid on reforms, including the thorough privatization and liberalization of the economy. Edwards argues that Tanzania's adoption of this set of "Washington consensus" policies sped the country's economic growth during the last two decades. His book is one of the most thorough and careful examinations of the subject of economic reform in Africa, and it benefits from the many interviews he conducted with key actors in Tanzania. Nonetheless, Edwards devotes too little attention to the many critics of the aid process in that country, who continue to question the true extent of the reforms' success.

A Poisonous Thorn in Our Hearts: Sudan and South Sudan's Bitter and Incomplete Divorce
BY JAMES COPNALL. Hurst, 2014, 272 pp. $30.00.

This book's title is drawn from a comment that a close ally of Sudanese President Omar al-Bashir made after South Sudan gained its independence from Sudan in 2011, as he bid good riddance to a region that had been like a "poisonous thorn" in Khartoum's heart. But Copnall shows that the cultural, political, and economic links between the countries remain dense and complicated and argues that the two sides need to forge a productive relationship if either is to thrive. His own analysis suggests that is unlikely: the divides are deep, and the leaders in both countries are corrupt and repressive. Shortly after they parted ways, the two countries fought bitterly over territory as both governments clamped down on domestic dissent. Copnall's many interviews with officials and ordinary people on both sides lend the book real authority and a sense of genuine empathy for the people of the two Sudans.

What's Gone Wrong? South Africa on the Brink of Failed Statehood
BY ALEX BORAINE. New York University Press, 2014, 174 pp. $27.00.

Boraine, an influential white antiapartheid activist, has written a scathing critique of the African National Congress, the black-dominated party that has ruled South Africa for the past two decades. Boraine's account of the party's corruption breaks no new ground; nor does his argument that the ANC's intolerance of criticism results from the antidemocratic internal culture the party forged during its long struggle for power. More interesting are the book's details on the strategies the ANC has used to weaken the independence of the judiciary and emasculate the legislature while maintaining party unity. Boraine hopes that strains will eventually appear between the ANC's different factions, but he doubts that any real threats to the party's power will soon materialize. His focus on political maneuvering means that he spends less time exploring the ANC's disappointing record on promoting economic growth and alleviating poverty. Still, this heartfelt critique of South Africa's status quo deserves to be read.

The Horn of Africa
BY KIDANE MENGISTEAB.
Polity Press, 2013, 240 pp. $69.95 (paper, $22.95).

In recent decades, few places have been as mired in violence as the Horn of Africa, which is home to more than 200 million people. Mengisteab's definition of the region includes eight countries: Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda. His book provides a good introduction to the structural and historical causes of the conflicts that have roiled those places. Mengisteab details the negative impact of colonialism, the problems of state formation in ethnically fragmented territories, the misrule by elites who often favor their own ethnic and regional bases, the harmful effects of military interventions launched by states in the region and outside powers, and the ravages of environmental degradation. A final chapter somewhat optimistically identifies democratization and government reform as the necessary prerequisites for peace, economic development, and state construction. Mengisteab does not always adequately distinguish between the region's eight countries, but he has done a masterful job of explaining a set of incredibly complicated conflicts in a complex and underexamined part of the world.

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