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connectography: mapping the future of global civilization

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Connectography: Mapping the Future of Global Civilization

Welcome to a new world paradigm that can be felt in just about every facet of our lives; the advent of global connectivity represents a fundamental transformation of human society extending well beyond traditional political borders. Meanwhile, the rise of megacities and the preponderance of highways, railways, pipelines, Internet cables, electricity grids and other symbols of the emerging global network civilization is an arc that has come full circle after first starting in the Far East centuries ago. In *Connectography: Mapping the Future of Global Civilization*, author Parag Khanna explains how political borders that once defined the world are becoming less relevant thanks to a technological age that is shifting power from traditional settings to local ones seeking more autonomy of their own financial and diplomatic affairs. The splintering power structure is resulting in new federations that share common infrastructures and institutions as economies are becoming more integrated, populations more mobile and the cyberdomain begins to merge with the physical one.

The following is a chapter-by-chapter synopsis that will help you dive quickly into the contents of the book. We hope that it will allow you to extract the greatest insights from it in the most efficient manner possible and help you find the sections of the book that will be of most value to you.

About the author

Parag Khanna is a leading global strategist, world traveler and best-selling author. He wrote the international best-sellers, *The Second World: Empires and Influence in the New Global Order* (2008); *How to Run the World: Charting a Course to the Next Renaissance* (2011); and *Hybrid Reality: Thriving in the Emerging Human-Technology Civilization* (2012). Khanna is a CNN global contributor and a senior research fellow in the Center on Asia and Globalization at the Lee Kuan Yew School of Public Policy at the National University of Singapore. He holds a Ph.D. in international relations from the London School of Economics and bachelor's and master's degrees from the School of Foreign Service at Georgetown University.

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CHAPTER 1
FROM BORDERS TO BRIDGES

A Journey Around the World
The old adage, "Geography is destiny," is becoming obsolete, renowned global strategist Parag Khanna writes in the opening of *Connectivity*. The future, he argues, has a new maxim: "Connectivity is Destiny."

"Seeing the world through the lens of connectivity generates new visions of how we organize ourselves as a species," writes Khanna. A journey around the world is no longer defined by the borders on the map, but by the roads and bridges that intersect them. As such, he believes mapping the corridors that connect us—rather than the boundaries that divide us—gives a better indication of our global society and the geopolitical dynamics at play.

Already, power is shifting from states to cities and from militaries to supply chains, as varying interests look to take advantage of the tremendous progress made possible by the transportation of resources and technologies to the places of greatest need. "Competitive connectivity," he says, "is the arms race of the twenty-first century."

Because that race will be one of advancement, and thus much less violent than border conflicts, he believes, "Connectivity is nothing less than our path to collective salvation."

Bridges to Everywhere
"There is no better investment than connectivity," Khanna writes. Including both physical infrastructure (roads and bridges) and social

infrastructure (health care and education) under that umbrella, he argues that these are investments rather than consumption because spending in these areas saves money in the long term.

During World War II, the U.S. invested more than 30 percent of GDP into infrastructure as it escaped the Great Depression. Germany's economic miracle in the 1950s, Japan's massive growth in the 1960s and the rapidly developing Asian nations of the 1970s and 1980s invested similarly. More recently, China's surging economy of the last quarter-century saw infrastructure investments topping 40 percent. Following the 2008 financial crisis, Spain—one of Europe's hardest hit countries—rebounded quickly, thanks to high investment in infrastructure, and is now the fastest growing economy on the continent. While U.S. infrastructure investment has fallen sharply, it continues to return $2 for every $1 invested.

Khanna cites the World Bank, calling infrastructure the "missing link" for the planet to address its most urgent needs, including the creation of 300 million jobs over the next two decades. "We are only in an early phase of re-engineering the planet to facilitate surging flows of people, commodities, goods, data, and capital," he writes. "As the world population climbs toward eight billion people, it has been living off the infrastructure stock meant for a world of three billion."

Yet, while Khanna believes there is an urgent need to rapidly escalate infrastructure investment, he also notes that the 68 million kilometers of global highways, pipelines, railways and Internet cables connecting us far exceed the 250,000 kilometers of borders that divide us. With only one-fourth of international trade occurring between countries that share a border, he says, the connectivity revolution is already underway.

Seeing Is Believing

Astronauts in low orbit are able to identify several of Earth's natural formations. Man-made mega-infrastructures have also been spotted from space. But political boundaries? Aside from the floodlit India-Pakistan border and the electrified South Korean nightscape that juxtaposes the darkness in North Korea, the lines are indiscernible.

On the ground, too, Khanna argues international boundaries are not nearly as pronounced as we might think. Along the contentious U.S.-Mexico border, many towns on opposite sides of the Rio Grande share the same name and are seamlessly connected by the Internet, instant currency exchange and relaxed visa requirements. Even countries such as Israel and Greece have borders that are porous, ineffective and tremendously costly. And in the case of India and Pakistan, for all the public political turmoil, business between the two countries is thriving.

"If borders are meant to separate territories and societies," he asks, "then why are ever more populations clustering among them?" Canadians seek life at the U.S. border to benefit from the advantages both countries offer, while to the south, populations on both sides of the U.S.-Mexico border have increased 20 percent in the last five years.

In the words of international relations expert Alexandra Novosseloff, Khanna reminds us: "A wall ends its life as a tourist attraction."

From Political to Functional Geography

We tend to see borders as absolute and intrinsic. Khanna suggests that this is a mistake, writing, "I am a deep believer in the profound influence of geography but not in its caricature as a monolithic and immovable force."

Our maps begin with natural geography, the actual landscape, and then add our political geography—or how we legally subdivide the globe. But it is our functional geography that shows how we actually use our space. Political geography divides us; functional geography connects us. Those lines of connectivity empower us not to detach from the natural but to make the most of it—even transcending the political divisions.

"Connective infrastructures across sovereign borders acquire special properties, a life of their own, something more than just being a highway or a power line," he writes. Such mega-infrastructures, he says, maintain a mutually acknowledged legitimacy that makes them more real than any law. And while borders come and go, what we build will last centuries.

Supply Chain World

Supply and demand, Khanna says, is the one true law of humanity. Simply put, we must meet our needs.

We meet those needs with supply chains, which he defines as "the complete ecosystem of producers, distributors, and vendors that transform raw materials (whether natural resources or ideas) into goods and services delivered to people anywhere." Before the Web, supply chains enveloped the world "like a ball of yarn," he says. But the Internet is the infrastructure that is taking supply chains to a new level. He notes the poetic turning point in 1989. That year, as the Berlin Wall fell, the Net was born, signaling our transition from a world of borders to a supply chain world that defies them.

Khanna believes that this transition is shifting the job of government from creating national laws to enforcing global regulations. Perhaps more importantly, the supply chain world allows us to function despite political dysfunction. The World Economic Forum estimates that reducing customs barriers by half would increase global trade by 15 percent and world GDP by 5 percent, while ending all tariffs would have an impact of less than 1 percent on world GDP.

When the supply chain does not reach us, we are increasingly moving to meet it. Today, 300 million people live outside their countries of origin, more than four times the number in 1960, and the ranks of expatriates span every rung of the socioeconomic ladder—from migrant laborers to multinational leaders. The vast majority of the transplants are shifting toward cities, with 150,000 settling in urban centers every day and 2 billion expected to make the move by 2030.

Developing nations are creating connectivity centers that allow them to grow with the rest of the world. For this reason, Khanna calls supply chains a form of salvation, but he acknowledges that there is bad news, too: "Supply chains are also how the market rapes the world." They are a conduit to exploitation of resources and the destruction of our environment, as well as a means for criminal syndicates to traffic illicit goods globally.

In the Global Supply Chain War, Khanna writes that rather than the larger power winning, it's the most connected entity that wins. Mastering that connectivity requires a new understanding of geography, one that continues to be underappreciated. As Jerry Dobson, past president of the American Geographical Society, observed, "America abandoned teaching geography after WWII and hasn't won a war since."

Balancing Flow and Friction

"Flow and friction are the yin and yang of the world: They complete each other and keep each other in balance," Khanna says. He defines flow as our means of distribution and friction as the obstacles.

The walls of friction can inhibit the flow of progress—but, he says, properly calibrated friction can minimize risks. It is our safeguard against disease, terrorism, risky financial schemes and many other dangers to our markets and societies.

But, he adds, "rarely is the solution to 'put up borders.'" Instead, he argues that the friction of the future is to control flow, working to ensure a smooth exchange of resources and talent while preventing an influx of crime and disease. "We will likely never have a global free market but rather have a world where the expanding global economy becomes ever more a strategic battleground."

Khanna understands the complexity of calling for both more yin and more yang, and he believes understanding connectivity is the key to embracing the complexity and finding the right balance. He ends chapter one with a reminder: "All things in moderation."

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CHAPTER 2
NEW MAPS FOR A NEW WORLD

From Globalization to Hyper-Globalization

Globalization is hardly a new phenomenon. Khanna traces it back to Mesopotamian trade routes spanning from Egypt to China in the third millennium B.C.E. and evolving to new highs in the Renaissance and the 20th century's golden age of globalization. Today, he says, we are entering a new golden age.

"Driven by the confluence of strategic ambitions, new technologies, cheap money and global migration, globalization continues to widen and deepen in almost every conceivable dimension," he writes. In what many have come to call hyper-globalization, world exports have grown from 20 to 30 percent of GDP since 2008, and trade volumes have increased by 500 to 1,800 percent in some developing countries. For its part, the U.S. has increased outbound investment to more than $5 trillion, with $3 trillion coming in from overseas, and, among S&P 500 companies, international business now accounts for 40 percent of revenues.

While there is no meaningful precedent for the scale, depth and intensity of this boom, Khanna says it is a mistake to think globalization has peaked. The world's largest economies are increasingly and inextricably tied to each other, and with the exception of bank lending, every globalization metric—from travel and migration to cross-border mergers and acquisitions and data transfers—has gone up consistently since 2008. The surge is likely to continue growing, for in a connected world, when one type of flow sees a reduction, it tends to be replaced by another, larger one.

The Measure of Things

Hyper-globalization is influencing more than trade. It is also shifting power dynamics away from the traditional sources of strength: population, land and location. “Today, power derives from leverage exercised through connective reach,” Khanna says.

China and India, he notes, have nearly the same population of 1.5 billion. But just a 1 percent dip in the GDP of China—top trading partner to more than half the world’s countries—correlates to an estimated 10 percent decline in oil prices. Such a fluctuation in India meanwhile could go virtually unnoticed.

Land mass also has a fading significance on the world stage, Khanna says. Though the largest country by area, Russia is the least connected of the world’s major economies and, as such, has little economic significance outside the old Soviet Bloc. Where the country does have influence is in volatility, a trait common among unconnected nations such as Iran, North Korea and Afghanistan. For rogue nations, he writes: “This suggests that rather than isolating countries further, we should engage them in more positive forms of connectivity.”

With the Internet reducing the cost of delivering services to nearly zero, location is also a waning force in the world. “Distance is not dead,” says Khanna, “but it is certainly compressed.” Case in point is Norway: Though small and relatively isolated, the Scandinavian nation controls 1 percent of the global stock exchange, due in large part to its high flow intensity—the value of economic connectedness relative to GDP as measured by the McKinsey Global Institute’s Connectedness Index.

At the top of that index is Germany, which Khanna calls “the world’s best-run large country,” with a whopping 110 percent flow intensity. As a result, even as exports within the eurozone have fallen from 50 percent to 35 percent of its total, exports to Asia are booming. And Europe’s most connected country remains its most dominant economic power.

A New Map Legend

All maps have legends that tell us what the various symbols represent, but Khanna believes that in the supply chain world, the standard legends are insufficient. The next phase of mapping, he says, should help us to identify the true areas of influence beyond traditional boundaries. These fall into five categories: territorial countries, networked cities, regional commonwealths, cloud communities and stateless companies.

Countries

The first step is to move away from mapping de jure sovereignty and focus on de facto authority. For example, it would be easy to mistakenly assume the reason for China's growing power is its size, when we know the truth lies in its investment in connectivity. From 2010 to 2013, in fact, China consumed more concrete than the U.S. did in the entire 20th century.

The next four most populous developing countries—India, Indonesia, Brazil and Nigeria—combine for 2 billion people and yet, Khanna writes, "each performs as far less than the sum of its parts because many of its parts are barely connected." Like Russia, each of these nations has yet to construct the connective infrastructure necessary to truly impact the world stage.

More misrepresentative is a map's portrayal of Congo, Somalia, Libya, Syria and Iraq, none of which truly exist as meaningful states. "Why not lighten their shade on the map, fading toward white to depict their weakness?" Khanna asks. Or Kurdistan and Palestine, Hezbollah, Boko Haram and ISIS—all hold both land and sway, but none can be found on a map.

On the other extreme, some governments have an outsized influence far beyond their borders, namely Washington, D.C., Beijing and Brussels. "We should depict their radius of influence in ways that don't misrepresent them merely as national capitals," he argues, suggesting that China's infrastructure investment into neighboring states has essentially recreated its ancient empire without officially adjusting its borders.

Cities

"Cities are mankind's most enduring and stable mode of social organization," Khanna says, "outlasting all empires and nations over which they have presided." We no longer call it Constantinople, and its Byzantine and Ottoman empires are no more, yet Istanbul remains a center of commerce and culture with influence far beyond its Turkish borders.

Megacities are quickly taking things even further. Two-thirds of Japan now live in the Taiheiyo Belt that includes Tokyo, Nagoya and Osaka. China, too, is centralizing much of its populace into two dozen urban clusters, each with more than 100 million people.

In the U.S., vast majorities of people and power are concentrated into three areas. The mass of growing cities in Silicon Valley is well known, as is the Eastern corridor from Boston to D.C., which comprises the centers of academia, finance and politics. But the Dallas-Fort Worth Metroplex—home to AT&T, American Airlines and ExxonMobil, along with an economy larger than all of South Africa—also more than qualifies.

The richest 20 cities today are home to more than 75 percent of the world's companies, making them part of a global network that empowers them to supersede their countries' influence. They are gaining ever greater leverage in policymaking and can maneuver with autonomy, even engaging in direct diplomacy—*diplomacity* as Khanna calls it.

In the developing world, the largest cities—Lagos in Nigeria, Karachi in Pakistan and Mumbai in India—are growing indifferent to their home countries as they interact independently with the rest of the world. In fact, Khanna notes that "there are far more functional cities in the world today than there are viable states."

Commonwealths

"The more cities connect to other major hubs in their regions," writes Khanna, "the more regions become collective forces rather than tectonic coincidences." The U.S. National Intelligence Council agrees, going so far as to say national governments will "struggle to keep up" with both growing megacities and regional groupings like the EU, the North American Union and Greater China.

Not only do strong regional alliances help accelerate progress through cross-border cooperation, they lift weaker nations that then help enhance the whole. To Khanna, it's no coincidence that many failed states can be found in the unconnected regions of the Near East and Central Asia. Over the coming decades, these "composite empires" will continue to gain power, and that is not a new phenomenon. While war and conflict get the ink, Khanna reminds us, "Civilizations connect far more than they clash."

Communities

The diaspora is now a multidirectional flow, asserts Khanna. As people spread from their homelands—India, Israel, the Philippines, Brazil—around the globe, expats forge a reliable financial, political and communications network. Likewise, after generations of education migration, graduates are returning home in unprecedented numbers, creating a "brain-gain" and bringing diversity of thought to otherwise more rigid societies.

As never before, individual identities and loyalties are transcending geography. The Internet has given us cloud communities that build tremendous loyalties and give any ideology the tools to easily reach, motivate and mobilize members. "The taxonomy of influential actors," he writes, "is thus expanding to include terrorist networks, hacker units, and religious fundamentalist groups who define themselves by what they do rather than where they are."

He asks readers to "Imagine a world where people are loyal to cities and supply chains rather than nations, value credit cards and digital currencies over citizenship, and seek community in cyberspace rather than country."

Companies

After the 2008 financial collapse, new regulations were put in place to rein in Wall Street. Yet just a few years later, more than 30 banks have consolidated assets of more than $50 billion each. Fewer than a third of all countries can claim that kind of financial weight. The power of large corporations is hardly news, but in the visual representations of our planet, their impact and influence cannot be seen. As we shift to a new kind of pluralistic system, Khanna believes we must begin to view the world differently. He writes: “The ranks of such global authorities that belong on our maps of connectivity are rapidly growing, a reminder that the map itself is never finished in a world of constant change.”

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CHAPTER 3
THE GREAT DEVOLUTION

Let the Tribes Win

Devolution—or the perpetual fragmentation of territory into more and smaller units—points in the opposite direction of connectivity. But, Khanna says, it is also "the most powerful political impulse propelling us toward a connected world."

America's independence from Britain was a rare milestone of devolution at the time. But the post-World War II decolonization era and breakup of the Soviet Union have led to a devolutionary trend that has seen the world's countries quadruple since 1945. While some point to decolonization as the cause of decades of violent conflicts, Khanna believes we haven't gone far enough. "Giving each tribe its own nation is the surest path to international peace."

The turmoil of nations struggling to maintain control of populations seeking independence can be seen throughout the world. Devolution, not democracy, is the key. "Democracy prioritizes elections, while devolution establishes the boundaries for political stability," he says. Besides, a fragile, newly created state hardly has the capacity to pursue international conflict.

Our mistake, according to Khanna, is attempting to freeze the political map, which has no value but maintaining an arbitrary status quo. Pointing to the Palestinians, Kashmiris and Kurds in Iraq, he believes revisiting those misaligned borders to create independent states should have been the common sense antidote to oppression and war.

While nations that spring up from devolution gain the right to self-govern, they are far from truly autonomous. Short on resources and population, their very survival relies on connectedness. “Fragmentation,” Khanna concludes, “is thus not the antithesis of globalization but its handmaiden.” Maximum borders require maximum connectivity. And no map is complete without both.

Growing Apart to Stay Together

In Khanna’s view, devolution is not only for small countries. Large but unstable nations—including India, Nigeria, Myanmar and Pakistan—suffer from seemingly incurable internal violence stemming from the struggle to geographically organize ethnic groups within postcolonial boundaries. “Devolution,” he suggests, “is the only way they will succeed: Greater autonomy will bring greater stability.”

The idea has precedent. Unable to defeat the Muslim Moro insurgency in 2012, the government of the Philippines granted them autonomy in a resource-rich region in the south. Under the name Bangsamoro, the former insurgency now cooperates with its old rival to ensure stability for its people. Indonesia also found new stability after the secession of East Timor, developing a more expansive, modernized supply chain to accommodate restive provinces that may follow the separatist lead.

In both of these cases, success stemmed from a combination of devolution and development. Devolution only succeeds among large countries, Khanna says, “if they can harness resources, represent collective interests, and redistribute economic wealth to minimize separatist impulses.”

From Nations to Federations

The impacts of devolution on a society are far from subtle. In the 1990s, Yugoslavia was literally torn apart by violent clashes between hypernationalistic Serbs and Croats. But two decades later, from their devolutionary framework, those same warring factions have built the Balkan free trade zone (FTZ), with new rails and highways connecting the young countries with Europe.

Europe's future seems destined for more devolution in the near future, Khanna believes. In the U.K., London's attempts to appease Scottish separatists with more autonomy seem to only feed the hunger for more, and the surprising defeat for Scotland's independence at the polls was followed by unprecedented electoral gains for the Scottish National Party just six months later. Likewise, control of Northern Ireland grows increasingly untenable as the population of Protestant British loyalists is being overtaken by Catholics favoring secession.

In Spain, secession is unconstitutional, but with 80 percent of Catalonians supporting a nonbinding resolution calling for independence, it's difficult to imagine the national borders harmoniously holding together for long.

Just as with London's efforts to appease Scotland, Spain's steps to increase Catalonian autonomy—if not sovereignty—are also acts of devolution. Such movements once weakened a populace by isolating them from resources and wealth. But in a world of connectivity, Khanna says these movements "shrewdly seek to ensure that taxes and revenues are spent on the local population rather than transferred through corrupt capitals to less efficient regions."

As such, devolution is often the first step to building something more through a larger international framework. To Khanna, "The entire European Union is thus a reminder that local independence movements are not the antithesis of lofty post-national globalism but rather the essential path toward it."

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CHAPTER 4
FROM DEVOLUTION TO AGGREGATION

Geopolitical Dialectics

As devolution has become a universal phenomenon, so has its opposite, aggregation, "which advances through infrastructure connectivity, economic integration, labor migration, political reconciliation, and more fundamental trends," Khanna writes. The combination of these forces, *devolution-aggregation*, is how the world comes together by falling apart.

Aggregation can be seen throughout the world in recent centuries. In the last 250 years, Africa went from two dozen tribal kingdoms to a colonial continent devoid of sovereignty to today's 54 independent nations, which are working toward a continentwide free trade zone to begin in 2017. Southeast Asia has gone through a similar journey: from seven empires to a few European colonies to the current 12 members of the multinational ASEAN organization.

Europe's evolution spanned centuries of power struggles for domination on and beyond the continent, culminating in two world wars and the ultimate dismantling of its empires. In the wake of the continent's five prewar powers, more than 40 nations remain, aggregated into the European Union. "Europe today," says Khanna, "is both the most legally devolved and the most supranationally integrated region."

While sovereign borders are redrawn by exclusive remapping, which most people are familiar with, today's true power shifts occur through the more obscure inclusive remapping. Inclusive remapping includes shared infrastructure, customs agreements, banking networks and energy grids. To demonstrate its massive influence, Khanna writes, “There are no more military checkpoints on the German-French border; in fact, as you drive full speed on the Autobahn, the only official indication that one has crossed one of history’s bloodiest international battlefields is an EU flag and a Bienvenue sign.”

Inclusive remapping is now such a powerful force that it has become the inevitable conclusion to its counterpart. Tensions flare, leading to divisions that allow them to cool. The divisions of the past start to matter less than the possibilities of the future, and Khanna writes, “Flows become the solution to problems the frictions alone don’t solve.”

The New Grand Trunk Road to *Pax Indica*

Grand Trunk was once considered the world’s most majestic road. Legendary author Rudyard Kipling called the 2,000-year-old trade route connecting much of Afghanistan and Bangladesh through India “a river of life.” But today, the Afghanistan section has endured a decade of suicide bombings, while on either side of the ironclad India-Pakistan border, the road and surrounding infrastructure are badly outdated.

Resurrecting the Grand Trunk Road is both necessary and inevitable, Khanna believes. He writes that reuniting the harvests divided by the arbitrary India-Pakistan border “would create the world’s largest breadbasket” and link both countries to badly needed sources of steel and energy.

And with an Indo-Burmese oil pipeline in the works, and Myanmar reducing China’s lock on trade in the region, he argues that the new Grand Trunk Road should not stop in Bangladesh. Even as political boundaries hold, functional boundaries are giving way to flow between the business interests of rival nations, and Khanna sees a new *Pax Indica* gradually emerging.

"It takes several generations for colonial scars to heal," he writes, "but the end point is not merely accepting arbitrary postcolonial boundaries but rather transcending them in favor of connective infrastructures."

From Sphere of Influence to *Pax Aseana*

After their acrimonious split in 1965, Singapore and Malaysia spent decades as constant threats to one another. Now, a half century later, despite their failed attempts at a political federation, they are growing into a functional one.

Three bridges will soon open, connecting the two nations to smooth the commutes of businesspeople and shoppers already bustling between them with regularity. These commuters are the personifications of an increasing flow of investment, education and health care that crosses the political divide. With expanding Singaporean businesses needing factories built close to home, the wealthier but spatially tiny island nation has become Manhattan to Malaysia's New Jersey—a bond so tight, breaking it can no longer be fathomed.

"Singapore doesn't have a natural hinterland, but now it can buy and build one," Khanna writes. It's a shift toward the supply chain world that is aggregating all of Southeast Asia under the diplomatic regional umbrella ASEAN. As a result of the broad connectivity, the region has rebounded from economic crisis in 1998 to become the world's fifth largest economic area today with a GDP of $2 trillion.

As global manufacturing has shifted toward Asia, from 25 percent to 50 percent in the last quarter-century, regional connectivity has allowed the continent to maximize its own gains. The disparity among its four economic tiers—from Singapore, Japan, South Korea and coastal China on top to Cambodia, Laos and Myanmar at the bottom—ensures that the entire supply chain always flows close to home.

"Carving through Southeast Asia," says Khanna, "is no longer about borders but about the management of flows and frictions."

From “Scramble for Africa” to *Pax Africana*

Unscrambling Africa

Europe’s 19th-century “Scramble for Africa” ignored natural divisions and alliances when dividing the continent for itself, yet when the West vacated after World War II, those arbitrary divisions remained intact. As a result, the continent’s 850 ethnic groups splintered, and the fragments were forced to coexist with others, which made more natural enemies than partners. Complicating the political borders is the lack of navigable rivers that leaves Africa’s dozen landlocked countries starved for resources. Now, even as populations have tripled since decolonization, infrastructures have decayed.

Khanna’s solution is “the one-two punch of foreign investment and infrastructure development, which together boost productivity and export efficiency.” He points to the resurgence of Rwanda, Botswana, Zambia, Ghana and Angola, where high prices for their natural resources have catapulted each into the list of the 10 fastest growing economies. Kenya, Mozambique and Tanzania have begun to utilize offshore energy resources to follow their lead, expanding trade with India and into Asia.

Functional democracies do not magically replace failing states, Khanna cautions. But functional pockets can emerge in defiance of postcolonial boundaries. “Infrastructure,” he says, “is transforming Africa’s map into what it should be.”

From China with Love

Now is China’s turn to replace Europe as cultivator of African resources. But rather than colonization, Khanna argues that China’s relationship with African nations is symbiotic. By the 1970s, China had already built a 2,000-kilometer railway linking Zambia with the coast of Tanzania, and today, the Asian power is financing and constructing dams, pipelines and additional rail lines throughout the continent.

By no means altruistic, these efforts are rewarded with access to millions of tons of raw materials and provide the means to extract them. Yet the byproduct is the basic irrigation, transportation and electrification infrastructure so necessary to bringing about what Khanna calls "a genuine Africa for Africans—*Pax Africana*."

Ethiopia, Africa's second-most populous country, with more than 100 million people, was not long ago the poster nation for poverty and starvation. Today, thanks to progressive leadership and Chinese infrastructure investment, Ethiopia is touted as Africa's next economic powerhouse.

"But, Africa will only graduate from supplier to market if it further builds out road networks China has begun, trains more youth in infrastructure management from ports to railways, and spends resource revenues on sustainable development," Khanna warns. If they do, *Pax Africana* can become their new reality.

From Sykes-Picot to *Pax Arabia*

A century ago, the Sykes-Picot and San Remo agreements carved up the Ottoman protectorates of the Arab world into feeble Western client states, which then became strongman dictatorships. Like Africa's arbitrary borders, sects were divided and subjugated, leading to decades of violent chaos that Khanna says "fractured the real map of the region beyond recognition."

Further complicating matters is the rise of ISIS, which aspires to be a state-like caliphate. Its focus on capturing and controlling infrastructure has allowed it to function like a state, and as it expands along the "Jihad Highways," its functional territory looks less like the traditional two-dimensional patch than an octopus stretching its tentacles deeper into surrounding nations.

While many see these as religious conflicts, Khanna notes that most of the world's Muslims live far more peacefully in the South Asian and Pacific regions, pointing to geopolitical rather than theological struggle. The supply chain is now simultaneously the battlefield, the source of greatest advantage and the spoils of victory. "The Sykes-Picot map has given way to the National Geospatial-Intelligence Agency's real-time plotting of satellite feeds of oil trucks and financial data on black-market oil sales to capture the shifting of

ISIS's supply lines," Khanna writes. As borders break down, demographics and identities are blending, he says, noting the half a million Palestinians living in Kuwait, 1 million Egyptians in Lybia and at least 15 million Syrian and Iraqi refugees displaced throughout the world. Meanwhile, the stateless Kurds retain a strong sense of national identity, which has outlasted colonizers and conquerors by maintaining control over not capitals but oil deposits.

"Even with its political geography in flux," he says, "Arab civilization has the cultural commonalities and wealth to advance a new functional connectivity." Dating back to the Roman Empire, the region has often been a modernizing force with some of the world's most important trading centers, attracting Europe to compete for its spheres of influence. But the power is only present in unity. The key to a future *Pax Arabia*, he believes, is a connected region with multiple capitals—Cairo, Dubai, Baghdad—building strength through alliance.

Unlike other areas of the globe, the Arab peninsula has ample resources to thrive but lacks the connectivity and will to spread them effectively. As a result, poor countries struggle increasingly while rich countries thrive. But as world powers diversify away from oil, there are signs that the needed cohesion is already underway. Wealthier nations have begun construction on numerous major cross-border projects, including a high-speed rail along the Southern Gulf perimeter, a pipeline from Qatar to Oman and, over Saudi Arabia's objections, a bridge linking Qatar with the United Arab Emirates. Alongside the growth of physical infrastructure, cross-border traffic of both labor and goods has become easier, and Khanna believes a monetary union cannot be far behind.

"Westerners hesitate to draw any more maps (publicly, at least) for the region they so cravenly carved up last century, while the Arab regimes left standing are too busy manipulating local forces to put forth a collective long-term vision," writes Khanna. "But if Sykes-Picot has failed them and chaos is engulfing them, they must draw their own maps of *Pax Arabia* to have something to aspire to."

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CHAPTER 5
THE NEW MANIFEST DESTINY

United States or Tragedy of the Commons?

In the wake of the Great Recession, 60 percent of Americans believe the American Dream is out of reach for them and their children. Increasingly, seniors are moving overseas for more affordable retirements and nearly half of 18- to 24-year-olds believe they will have to seek work abroad as a record 9 million Americans have emigrated. Companies are following suit with $5 trillion held overseas in 2014. They avoid regulation by funding overseas mergers and corporate relocations rather than reinvesting in the economy at home.

“America used to represent the richest, safest, most technologically advanced society in the world,” Khanna writes. “But one should never confuse the fortuitous combination of circumstances with destiny.” The world is changing rapidly from America’s post-World War II boom, and how the superpower handles its economic recovery—whether it can train a 21st-century workforce and ensure prosperity reaches depressed states—will determine if the country rises as a whole or degenerates into a tragedy of the commons, continuing as a great but crumbling empire.

The 2013 bankruptcy of Detroit, once the country’s richest city, is a sign of a new reality: Residing in a competitive, world-class country no longer assures a city’s competitiveness. In U.S. cities, Khanna sees the two sides of devolutionary tendencies. On the good side are New York City, Los Angeles, Miami, Dallas, San Francisco, Chicago, Boston and Atlanta. These cities are fighting to remain national anchors, regional magnets and even global hubs, strategizing to build the infrastructure necessary for trade relationships and growing investment.

Detroit, Cleveland, Buffalo and other once-thriving industrial manufacturing towns find themselves on the bad side of devolution. Without the size or strategy to generate new investment, they have Washington's authority to do business but not the money to succeed. Experts predict that Detroit will be just the first municipal bankruptcy to hit cities that are losing resources to their more connected peers.

Meanwhile, Khanna says, much of America's competition for manufacturing jobs is mired in a "race to the bottom." Politicians erode wage requirements and union protections to keep factories from moving to other states. "But," he writes, "there are fewer than twenty million manufacturing jobs left in America, and nothing that Michigan and Tennessee do today can keep them from being gone tomorrow."

The Devolution Within

For all of America's strengths, its roads and bridges are crumbling, railways are outdated and broadband connectivity is insufficient. Soft infrastructure looks no better, with education, immigration policies and economic parity all well below the level required to maintain a world-class workforce in the 21st century. To compete, states are undermining each other's attempts at progress, allowing cities to gather the spoils of their battles. As a result, the gap between urban and rural grows ever more vast as 85 percent of GDP stems from major cities (8 percent from New York City alone). Yet income inequality in these urban centers has become as severe as some developing nations.

For these reasons, China looks to Germany as it steamrolls toward superpower status. With more millionaires and billionaires than the U.S., Germany has nowhere near the inequality that continues to grow in the U.S. "What Germany—and Japan and South Korea—have that America doesn't," he writes, "are policies that promote solidarity despite devolutionary competition among cities."

Pacific Flows

For the U.S. to bring its thriving 20th-century industrial towns into a prosperous 21st century, it needs to invest in infrastructure and reinvent its industries to meet modern needs, Khanna argues. With its identity so tied to the automobile, Detroit is only now working toward that goal, while Pittsburgh responded to its declining steel industry by investing in software, biotech and advanced materials.

Toledo—once known as America's Glass City—followed a different model after the glass industry moved to China. It courted Chinese investors, selling them on the city's central location, and found buyers for hotels and factories along with partners in arts and education. Toledo is not alone. As American jobs flow toward Asia, cities have enticed investments to flow back in. Khanna quotes Idaho's lieutenant governor, Brad Little: "Asia is where the money is."

Not only money, Khanna says, but people, too. Chinese citizens, worried about a potential real estate bubble at home, are the largest investors in the EB-5 program, which grants green cards in exchange for $500,000 of investment in federally approved projects, which have rejuvenated cash-strapped regions of the South. But America's 6,000 annual Chinese EB-5 visas are dwarfed by Canada's more than 60,000, leading to Vancouver's nickname, "Hongcouver."

To Khanna, the Asianization of the North American West embodies the expansion of flows across Earth's oceans. But he warns that too much emphasis on immigration restrictions could halt the trends. Until then, he says, "Red is the new green."

Oil and Water Across the World's Longest Border

For the first time, more Canadians live west of Ontario than east of it. Khanna believes this should matter to Americans because they are the reason why. Until the OPEC embargo of 1973, oil riches went largely untapped. In the four decades since, largely to meet American demand, oil sands, potash, diamonds and other minerals have helped carve a Canadian destiny in which the West overtakes the East as the country's financial center of gravity.

To Khanna, water is North America's "oil of the 21st-century." Like Canada, America's West continues to grow. But the South is also drying up, following years of intense drought. It's hard for Khanna to imagine how the U.S. could continue to produce one-third of the world's corn and soybean exports without Canadian water. He sees the U.S. becoming "a hydraulic civilization," with water pipes, like oil pipelines, stretching from the northern border to Texas, Arizona, Georgia and Florida.

He adds that water is just the newest reason why North Americans should begin viewing their continent more geologically and less nationally. "Though regulations differ, the political divisions across the 49th parallel separating the United States and Canada matter far less than the output of underlying formations that unite them."

The North American Union

Two decades after its creation, NAFTA is moving toward a European-style empire of city-regions that many call the North American Union. Already, the U.S. is consuming more than half of Canada's oil production, and now a pipeline is being constructed to feed natural gas into central Mexico from the U.S.

The benefits of such neighborhood partnerships are not economic alone, Khanna says. Nationalist policies like corn subsidies have led to Mexican farmers abandoning their crops and joining drug cartels that have flooded both countries with violence and contraband. Mexico's growing economy has not only decreased the desperation that drives people to crime, but reversed the flow of immigration, bringing Mexican expats back home to pursue new opportunities. "The smartest thing America can do," Khanna writes, "is to send job-creating and socially stabilizing supply chains with them: nearshoring jobs once outsourced to China back home and to Mexico."

Increasingly, competition is giving way to vital alliances. Mexico takes U.S. auto jobs, but two-thirds of Mexico's car parts come from U.S. suppliers. Along borders to the north and south, North American trade is dominated by two dozen pairs of interdependent cities. Among them, San Diego and Tijuana now view their border as a hindrance, slowing commerce to the tune of $2 billion in lost revenue. As intercontinental infrastructure expands, Khanna says, "America should come to think of itself as the heart of an integrated North American supercontinent." Even then, the union could expand. As melting ice caps remove Greenland's barriers to independence from Denmark, its natural resources could make it a valuable ally.

America's 19th-century vision of "Manifest Destiny" is finally becoming a reality, Khanna believes. But in the modern edition, it will occur not by conquest, but by integration.

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CHAPTER 6

WORLD WAR III—OR TUG-OF-WAR?

An Ancient Metaphor for Postmodern Times

The world's oldest team sport, tug-of-war, is defined as "a severe contest of supremacy," and victory requires the utmost strength, endurance and willpower. A fixture of five 20th-century Summer Olympics, the competition is excruciating and offers no respite. And yet, in thousands of years, almost no one has died competing. Since few societies are actually at war, Khanna believes this is a fitting metaphor for the ubiquitous competitions that truly dominate global conflict.

Like the sport, our global tug-of-war connects us even as we compete for advantage. While winners prove their might, a burst of brute strength can destroy the team's balance and, as such, victory depends on sophisticated strategies of sustained and coordinated tension, utilizing small steps to build leverage until victory can be reached.

But victory is never final. There are more opponents always waiting for a new game.

Was Orwell Right?

George Orwell's landmark novel *1984* foretells of a world in which three megacontinental superstates—Oceania, Eastasia and Eurasia—engage in constant and tolerant dissent. While the Soviet Union never conquered Europe, Khanna finds prescience in the vision of three dominant regional powers: in reality, Europe, China and the U.S.

But Orwell could not have imagined that "the superstates' primary mode of interaction is not the conquest of each other's territory but the pursuit of access to each other's resources and markets." In the modern reality, as much as rivals strive to outdo one another, they also need each other. "Conflict, cooperation and competition thus overlap." And just as in tug-of-war, interdependence can help forestall more deadly conflict.

The Calm Before the Storm?

In the aftermath of the Cold War, Pentagon strategists unanimously agreed that World War III was most likely to arise in Asia over control of Taiwan. Today, that concern has disappeared entirely. The most obvious reason for the de-escalating threat is deference to the more formidable militaries on both sides. But just as important, Khanna argues, is their ever-expanding interconnectedness. China receives 80 percent of Taiwan's foreign investment, along with the lion's share of its exports; and hundreds of weekly flights now ensure a free flow of people and capital between the two.

The complex relationship is far from unique in the Eastern Hemisphere. China also has thriving trade relationships not only with rival Japan, but India, which has reciprocal "favored nation trading status" with Pakistan. Still, cross-border trading posts and the red carpet treatment for visiting executives have not eliminated the armored brigades along tense borders or the fighter jets scrambling to patrol disputed regions. Factor in North Korea's provocative and unpredictable nuclear weapons testing, and Khanna says it's easy to see how the slightest miscalculation could be an invitation to war.

> "The current dynamic between military escalation and economic integration may just be a prelude in the shadow of an inevitable slide into major war."

War by Other Means

In 2014, the centennial of the start of World War I, it was easy and not uncommon to observe the similarities of prewar conditions with today's global climate. But Khanna believes that in their haste to make analogies, many observers failed to note key differences. While it's true that European nations traded heavily with one another prior to World War I, they did so vertically, trading primarily in finished goods.

Today's global economy relies on a complex supply chain dispersal, whereby we don't just trade in goods—we trade in tasks. Much of what we buy from each other is made from things we sell to each other, and in the U.S., 40 million jobs are tied to exports.

The Cold War paradigm, which froze trade with rivals, heightened tensions that led to conflict. As we shift to a supply chain world, it becomes increasingly difficult to see other nations as simply friends or enemies. Khanna sees global investment turning rivals into "frenemies." He goes on to say that "supply chains thus diminish the incentives for conflict, while decoupling from them raises the potential for antagonism to escalate."

And just as our infrastructure outlasts our borders, he reminds us, "Warfare is an event; network building is a process."

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CHAPTER 7
THE GREAT SUPPLY CHAIN WAR

Trading Atoms and Bits

The idea of a one-way outsourcing problem is not as simple as populist politicians suggest. Since 1990, as nearly 1 million jobs left the U.S. for factories overseas, U.S. exports to those emerging markets have doubled with new wealth abroad creating new demand for American goods.

What's more, since the global supply chain unbundling began 50 years ago, products increasingly contain parts from across the globe. Goods bearing the "Made in China" label are made from 34 percent imported products. Khanna writes that "products should start carrying the label 'Made Everywhere.'"

As a result, he says, "the difference between winners and losers in this global tug-of-war is not rich versus poor but new versus old." On the one hand, China aggressively works to liberalize trade to smooth the flow of its much-needed technology imports, which enables it to stay ahead in manufacturing exports. On the other hand, countries' attempts to add friction often backfire, like when the U.S. imposed tariffs on tires imported from China, which responded with a 20 percent tariff on Cadillacs. When the U.S. reversed course, so did China.

The speed of unbundling is only accelerating as global service trade—already 60 percent of the value of world trade—doubles every five years. Products that travel over digital waves rather than oceanic ones can be delivered instantly and cheaply. This creates a threat to multinationals as the developing world competes increasingly with lower overhead. The solution for multinationals: mergers and joint ventures. Or as Khanna says, "If you can't beat them, buy them."

Horizontal + Vertical = Diagonal

> "There is just one formula one needs to understand the Great Supply Chain War," Khanna writes: "Horizontal + Vertical = Diagonal."

In the horizontal tug-of-war, each node is crucial to the final product. He calls America's recent use of its vast shale resources "a giant dose of steroids for North America's tug-of-war team." But he also points out that natural resources are not required to be a valuable node. Singapore, for example, has no raw materials but has become a valuable hub for refining and shipping. Each node in the horizontal supply chain has both leverage in the global supply chain and reason to cooperate with its counterparts across the globe.

The key to vertical tug-of-war is value, not volume. "China exports more than twenty times as many watches as Switzerland," Khanna writes, "but each Swiss watch is worth on average three hundred times more." By making the complex products nobody else is making, the country becomes an irreplaceable node in the supply chain and, therefore, has more leverage.

"When countries compete, they do so with their entire supply chains," Khanna says. That combination of horizontal and vertical gives us the full picture: the diagonal supply chain with wide-reaching ramifications. The U.S. bailout of G.M., for example, didn't just save one company, but the 1 million nationwide jobs at its secondary suppliers. French and German governments subsidize the UAE's Emirates airlines because of the tens of thousands of jobs building their Airbus airplanes at home.

China strategically uses its leverage on the vertical plane to gain horizontally. For example, each assembled iPhone brings in $8 but has also brought the knowledge Chinese company Xiaomi used to launch as a major competitor. "'Made in China' is becoming 'Made by China,'" Khanna says. Like India—whose generic drug business now holds 40 percent of the U.S. market—China is aided by the view that "copyright" gives them the "right to copy." There can be no doubt that such theft causes damage to U.S. and European businesses, and while they could retaliate, it would be difficult at this point without disrupting the vertical—and therefore diagonal—supply chain.

Resource Genes and Data Centers for Food

With so many factors—emerging technologies, geopolitical concerns and even weather—keeping the global flow of minerals and food in flux, countries are on a constant quest for both diversification and substitution.

In 2011, the export of rare earth minerals was temporarily banned by China, where the vast majority are mined. As most modern electronics depend on these natural resources, it understandably rattled economies. Today, MIT researchers are developing synthetic substitutes, which would effectively consolidate the supply chain. Such synthetic replacements of vital components are in the works, on everything from diamonds and advanced alloys to the tools for sustainable water-free fracking.

The food industry is no less innovative. Aquaponics has created what Khanna calls "data centers for food." California startup Famgro uses high-tech, soil-free, stackable units, along with LED light and a third of the water necessary for even organic farming to grow food 24/7. The result is food sustainably grown in weeks rather than months in a system that can be reproduced in any climate. The product is available via FreshDirect in large U.S. cities, but the biggest consumers are population-dense food importers UAE and Singapore.

Shortening the food supply chain, Khanna argues, could greatly benefit the planet as the industry currently generates 25 percent of global greenhouse emissions.

Coming Home—but Only to Sell at Home

The wages of a Chinese worker are less than one-quarter of an American's, while energy costs on average are just 5 percent of a manufacturer's cost. It's a combination of factors that has made outsourcing tough to resist.

But manufacturing close to customers has its advantages too. In our supply and demand world, customers are becoming more demanding. Cadbury's new factory in Indonesia is less about labor cost than tailoring sweets to the Asian markets. The auto industry faces similar considerations as market share has as much to do with cost and general quality as it does individual—and thus culturally driven—tastes.

This is enough reason for American companies like GE to invest $800 million in its—until recently—shrinking Appliance Park in Louisville, Kentucky. And with the majority of the world's consumer class still living in the West, for now anyway, nearshoring is a supply chain necessity.

A Longitudinal World?

As countries insulate themselves from risks that could disrupt the supply chain, they build independence, even while integrating with the rest of the world. "With its advanced technology and industrial manufacturing potential, America could not only design iPhones but make them all at home as well," Khanna says. "That would constitute reaching the pinnacle of the supply chain—dominating high-value production while still exporting worldwide."

If major powers had the right mix of energy and technology to become truly self-sufficient, Khanna believes globalization would become a longitudinal affair, giving nations little reason to intervene in conflicts outside their geographic blocs, like those in the Middle East, but an increased incentive to ramp up defenses of home markets. The decrease in supply chain friction makes it easy for an integrated country to pick up stakes from another. "One virtue of industrial policies then," he writes, "is that they promote investment stickiness and strengthen the constituencies for cooperation across rivals."

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CHAPTER 8
INFRASTRUCTURE ALLIANCES

Getting Grand Strategy Right

While most think of global power as a matter of military might, Khanna argues that with true geopolitical status, supply chain mastery is the initial and more important driver. He points out that the U.S. in the 19th century and present-day China were supply chain powers before they became military ones. The grand strategy for global power is thus multidimensional, encompassing trade, finance, energy, military and governance. “The balance of innovation drives the balance of power,” he says.

From the Louisiana Purchase and Monroe Doctrine to the Spanish-American War, U.S. power was founded on principles of expanding and protecting connectivity. More recently though, as China remains steadfastly focused on serving its global commercial interests, Khanna says that the Bush and Obama Administrations have “defaulted to military posture as a proxy for influence.”

Not only has the U.S. forgotten that its biggest foreign policy failures—Vietnam, Iraq and Afghanistan—have come from intervening rather than not intervening, shortsighted strategies have prevented the country from achieving its ultimate goals. As examples, Khanna cites Iraqi oil going to China and Europe following America’s 2003 invasion; nuclear reactor contracts from India and the UAE awarded to South Korea and France after the U.S. lobbied for the international exemptions that allowed the reactors to be built; and the newly opened Iranian market benefiting

Europe and Russia, who were laying the groundwork while the U.S. was engaged in negotiating the deal's terms.

What the U.S. has failed to grasp is that "the strategic goal of a supply chain world is not domination, which brings obligation, but leverage, which generates value," Khanna says. For the U.S. to maximize its leverage, he believes the superpower must return to investing in its infrastructure rather than allowing itself to become mired in costly military interventions that can do more harm than good.

Post-ideological Alliances

The past quarter-century was dominated by the erroneous assumption that we were living in a "clash of civilizations," an era of conflicting philosophies. "When scholars and intellectuals seek to define an era by ideologies (rather than conditions), they mistakenly presuppose that there must always be one coherent vision—or two in opposition—of world society in a struggle to assert itself," he writes. "But a supply chain world is a post-ideological landscape."

During the Cold War, alliances were determined by devotion to communism or capitalism, but today, it is the promise of privileged access that shapes geostrategic maneuvering, Khanna argues. When China delayed the U.N. Security Council's recognition of an independent South Sudan, it was not over government structure but the assurance that the new nation would honor its oil contracts with the previous regime. The U.S., too, has entered into what he calls "morally awkward partnerships" with Egypt, Saudi Arabia, Qatar, Uganda and others to preserve the supply chain during the war on terror. In the supply chain world, calls for NATO conflict intervention are guided by each member's constant cost-benefit calculations.

More than military alliances or even trade, the greatest predictor of stable relations is the degree of foreign investment between two nations. The U.S. and Turkey will not go to war, even as they differ over intervention in Arab civil wars, because of the shared investment in the Turkish oil and gas pipeline to Europe. Still, the

U.S. continues to measure strength in military spending, while Europe and Asia have learned to measure their robustness through infrastructure investment.

China now views the world almost entirely as supply chains: New Zealand supplies food, Australia iron and gas, Zambia metals and so on. The attitude is not unlike that of mining and energy companies looking to extract resources from turbulent regions. “Energy companies bet on geology, not governments, knowing their investments in the former will long outlast the latter,” writes Khanna. They are not simply willing to tolerate civil wars, expropriation and other large-scale disruptions; they expect them. “But,” he adds, “they also know that whoever is in charge—now or later—won’t survive long without doing business with them.”

From Sanctions to Connections

In a world of competitive connectivity, even the most powerful nation can only get so far through sanctions. Khanna singles out black market Coca-Cola in both Iran and Cuba, along with banks and oil companies doing business with so-called rogue states through shell corporations and subsidiaries. With more channels of flow, it has become virtually impossible to isolate a country like Russia or Iran.

As a result, Khanna believes the U.S. must focus on gaining leverage through engagement rather than containment. “A return to realism rather than false moralism as the underlying principle of diplomacy would go a long way toward expanding global connectivity.”

The loosening sanctions against Cuba and Iran seem to indicate that the U.S. is learning that to truly overcome geopolitical frictions, it must guarantee more flows.

Beware Friendship Bridges

Only a few years ago, Russia and Ukraine had agreed to build a bridge linking Crimea to the Russian Taman Peninsula. At the time, the shared infrastructure was a symbol of the budding friendship between the two countries. Today, nobody is talking about friendship after the violent conflict that continues to inflame tensions over who should control Crimea. But Russia alone continues to move ahead with the project, even as it has effectively amputated Crimea from Ukraine with land mines lining the north border.

Khanna says that the use of such infrastructural engineering to remap the geopolitical landscape is not uncommon. But what he finds to be more significant is the complex underlying tug-of-war revealed by the battle for Crimea.

First, the U.S. struck against Russian aggression by blocking export licenses for high-tech goods to Russia, which retaliated by limiting sales of rocket engines to the U.S. European and American companies were then banned from investments into Russia, which blocked key food imports from Europe and threatened to cut off gas supplies.

In this, Khanna sees parallels to the 1970s, when the USSR's break from China opened the door on a U.S.-China relationship that has far surpassed the power and importance of the Soviet alliance. Today's actions have caused Europe to explore alternative energy sources and gas imports from the U.S. The lesson, says Khanna: Territorial friction in one area creates flow in others.

Meanwhile, Russia's efforts to secure Crimea came at a high cost. In seizing and amputating the tiny, economically backward region, Russia has effectively cut itself off from the real Ukraine. Russia won the battle but ceded the edge to Europe in the larger supply chain tug-of-war.

Oil Is Thicker Than Blood

After the fall of the Soviet Union, BP and Chevron officials descended onto oil-rich Azerbaijan to negotiate what became known as the "deal of the century": a $4 billion investment to create the world's second longest oil pipeline, from the Caspian Sea to the Mediterranean via Azerbaijan, Georgia and Turkey. Seventeen years later, when Russia began to occupy parts of the region (South

Ossetia, Abkhazia and areas of Georgia), Azerbaijan was off-limits. The pipeline had become the border that Russia would not cross.

To Khanna, this is a reminder that infrastructure investments are almost always worth it. “Pipelines reconnect feuding siblings and introduce tug-of-war dynamics where otherwise war itself would be the main option,” he writes. In the case of Ukraine, he argues that infrastructure will matter far more to the country’s future than who controls Crimea, as evidenced by Europe, which is simultaneously bailing out Ukraine and accelerating efforts to evade it entirely as a gas transit middleman. Not only is Europe aggressively exploring new fuel sources, it is constructing new direct pipelines into Russia itself.

> “Eventually, Russia’s internal weaknesses and dependence on foreign investment will bring it back on the path of opening to the West, while its fuller role as a global supply state for energy and agriculture, and as a transit corridor across Eurasia, will comprehensively benefit the five billion people on the supercontinent,” Khanna predicts. “Buying Russia will prove a more successful strategy than containing it.”

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CHAPTER 9
THE NEW IRON AGE

Iron Silk Roads Across the Heartland

After the Soviet Union collapsed in 1991, China suddenly found itself sharing a border with numerous newly formed republics—more than Russia itself. Fortunately for China, it had been inadvertently preparing for this day since the end of its civil war in 1949 through its "Develop the West" campaign, which established roads, rail, electricity and a relocated populace to the Tibet and Xinjiang regions on the then-Soviet border. When the Soviet grip released, China needed only to extend the work it had begun, literally building inroads in what Khanna calls "a quarter century of checkbook diplomacy."

"There is no precedent for the current wave of highways, pipelines and railways forming east-west axes of logistical efficiency," Khanna writes. "Unlike the nineteenth-century 'Great Game' era when Britain and Russia sought to demarcate Central Asian territory, China merely wants to steer the direction of its energy flows." In so doing, he says, the Chinese have replaced the arbitrary borders of Stalin-era maps with new oil-slicked iron Silk Roads, an explosion of cross-border infrastructure that is expanding Chinese leverage and influence by easing flow.

While they are helping China win the global tug-of-war, the new Silk Roads have been universally praised by the United States, Europe and Russia. For decades, Khanna says, Western scholars believed China was working to play along with Western-centric order. In reality, China's participation in institutions such as the World Bank, the International Monetary Fund and the World Trade Organization served to water them down while creating the Asian Infrastructure Investment Bank (AIIB). The AIIB's budget to expand infrastructure throughout Eurasia is now 10 times what the Marshall Plan invested in Europe.

Japan has recently announced an infrastructure fund to rival the AIIB, but Khanna says it will only accelerate the connectivity China seeks, enhancing Asia's connected destiny.

Kublai Khan's Revenge: The Return of Sino-Siberia

China now has more neighbors than any country in the world and has shown no interest in adjusting those borders. Why would it? As it builds supply chains across its perimeter, Khanna believes the functional, if not political, map will be reminiscent of Kublai Khan's 13th-century Mongol Empire, which controlled the entirety of China, Korea and modern-day Siberia, stretching into Ukraine and Iran.

Nowhere is China's infrastructure expansion clearer than on its 3,000-kilometer northeastern border with Russia—the second largest in the world. On the Russian side, the resource-rich Siberian region has seven times more mass than "European" Russia but a tenth of the population. The map's solid border line belies a massive and growing Chinese population, both permanent transplants and seasonal workers.

Where people are flowing into Russia, resources are trending the opposite way and on China's terms. Russian reluctance to export energy directly to China was worn down by low prices and Western sanctions, which finally compelled Vladimir Putin to sign the long-term deal Beijing had been waiting for. Now, Chinese and Russian leaders are working toward the construction of a massive hydrocanal that would provide major respite for the still poorly irrigated China. Crops in both countries would see huge benefit from the project, but with the decreasing value of official borders, the question remains: How much of Russia's food chain will China control?

Iran: The Silk Road Restored

With its population of 80 million, Iran is the grand prize of the Eurasian Silk Road for both the East and West, says Khanna. While global sanctions were only beginning to ease at *Connectography*'s writing, the tug-of-war for Iran was well underway. Russia has already made oil agreements with Iran and plans to begin selling the country surface-to-air missiles, while China has deals to buy gas and build infrastructure; Iran is buying petroleum from India and gold from Turkey, and banks in both France and China have helped Iranians launder billions. As for the U.S., which led the sanctions, American companies exported more to Iran than almost any other nation through groups like USA Engage, which had blanket waivers for food and medical items. Boeing and GE have also been permitted to sell spare parts and conduct aircraft maintenance since 2014.

For its part, Iran is working to lure business from all sides. Iranian middlemen in Dubai and London openly discuss the tens of billions in foreign investment that might have been and still could be, and the Revolutionary Guard has gone so far as to privatize state-owned companies in an effort to attract capitalist investment from the West. Even once-prohibitive religious strife has not slowed Iran's ambition as the Shiite theocracy forges agriculture partnerships with the Sunni-dominated UAE and Qatar. Likewise, Turkey has no reservations about doing business with Iran, investing in cross-border pipelines and railways, providing it direct access to continental Europe.

When Khanna visited in mid-2015, diplomats spoke not of nuclear sanctions but of infrastructure projects that will link to surrounding countries. Iran's focus is rightly shifting from nuclear-fueled military might to connectivity, he says, noting that "With two-thirds of the population under the age of thirty, Iran is a postrevolutionary society trapped in a revolutionary state." As the country opens to the world, it already has nearly full mobile phone penetration and the most widespread Internet access in the Middle East, helping domestic e-commerce sites to grow exponentially. Still, the country's internal infrastructure remains in shambles from a decade of war with Iraq in the 1980s, and low oil prices amplify the need for Iran's economy to diversify more quickly.

Iran's new connectivity is a far cry from a solution to the Middle East. "In fact," Khanna writes, "it will add a thick layer of economic linkages and political subterfuge to an already befuddling regional bazaar, one that will grow more complex even as it becomes less opaque."

North Korea: An Iron Silk Road Through the Hermit Kingdom

For decades, the "Hermit Kingdom" of North Korea has been hopelessly repressed, first due to its pursuit of an antiquated ideology of self-reliance called juche, and now, because of crippling international sanctions. Yet for all its saber-rattling and volatility, even the most isolated country on Earth is embarking on a path of increasing connectivity.

Almost all North Korean trade currently takes place with China, giving Beijing the leverage to play hardball, even answering a U.S. request to cut off Internet access to the country after the 2014 hack of Sony Pictures was tied to Pyongyang. That leverage serves a greater benefit for both Eastern countries, Khanna says. While North Koreans fear a full-scale ground invasion, the Hermit Kingdom's reliance on its neighbor to the north ensures China can get what it wants without military expenditure, which in this case is access to the eastern coast on the Sea of Japan. With a new railway already in place, the alliance gives China unique coastal access to Arctic shipping routes.

Russia too has sights on building relations with its forgotten neighbor in the hopes of building what Vladimir Putin has called an "Iron Silk Road Express" from Moscow to Seoul, with a stop in Pyongyang. To that end, Russia has forgiven North Korean debt, is exploring a gas pipeline across their tiny shared border and relaunched previously suspended investments. In gratitude for recent oil sales, North Korea could send as many as 1 million army reservists to labor in Russia's eastern wasteland. Even its bitter rival to the south is expanding investment in the Kaesong Industrial Complex, a special economic zone just north of the contentious border where, along with numerous electronic components, parts for South Korean automaker Hyundai are made by 50,000 low-paid North Koreans.

This could be just the beginning for a country that is a (literal) gold mine of natural resources that are already finding their way into our products. While executives and shareholders likely had no knowledge of it at the time, the Dodd-Frank disclosure requirement revealed that IBM and Hewlett-Packard hardware contain rare earth minerals excavated in North Korea and sold by Chinese suppliers. Conditions are also ripe for North Korea to play a major role in the next great wave of agriculture, Khanna says, and its mighty rivers could provide ample hydropower for the region.

The blueprint is not unlike the Chinese business model of the 1970s, but, Khanna says, with a much smaller population and widespread destitution, "fifteen years from now, North Korea could at best resemble post-communist Romania, where low-grade industry, farming, and mining remain economic staples."

Still, it is a path toward more freedom. In Khanna's travels to the Hermit Kingdom, he saw a people who were loyal and misinformed, and while sentiment is nowhere near demands for democracy, "many North Koreans can barely disguise their desire for sweeping change." He believes delegations of visitors have enhanced appreciation for their rich culture but helped them to see the anachronistic state for what it is.

> "That," Khanna concludes, "is precisely why supply chain integration is a better strategy than political humiliation."

The Supply Chain Strikes Back

"Since the 1990s, China's checkbook diplomacy has underwritten nearly frictionless commercial expansion," Khanna writes. But like all of history's great empires, China's supply chain dominance is bound to cause blowback. The difference now is that while European empires lasted 600 years before the upheaval of independence movements led to their toppling, the complexity of today's world and its rapid feedback loops have compressed China's time scale.

Although China built its global supply chain empire without ever fighting a single skirmish, some populations have begun to see

Chinese enterprise as the main enablers of their own oppressive governments. In Pakistan, the Balochistan Liberation Army views Chinese business on their ports as Punjabi colonial projects, and they have targeted engineers, blown up buses and attacked pipelines in retaliation. In Africa, kidnappings and attacks against Chinese workers are on the rise from the Niger Delta to southern Sudan, while Zambian mine workers have begun to violently rebel against their slave-like conditions at the hands of Chinese companies.

Other blowback is less brutal but equally effective at interfering with China's dominance. "The smartest governments demand that China employ more locals, spend more on skills training, transfer more technology, and manufacture more products locally," Khanna writes. These countries are increasing the value that China brings in before they can cart everything out. Kazakhstan and Mongolia have designated key mineral deposits as "strategic assets," making them off-limits to outright purchase but welcoming partnerships that ensure a share of the wealth they bring. Khanna says, "They are doing to China what China has done to the West." But he also reminds readers that with nearly unlimited funds and holding the debts of most countries, when China wants to strike back, it has more than enough leverage to do so.

Enforcing potentially devastating financial maneuvers is another matter. To that end, and to protect its interests from increasingly resistant populations, Khanna believes it is only a matter of time until China's sprawling supply chain takes on military dimensions. "The supply chain war could become quite literal."

And yet, if Western governments do not increase competitive initiatives, Chinese supply chain supremacy will only grow. One tool at America's disposal was the Export-Import Bank, which benefited U.S. corporations, made American goods cheaper overseas and generated a profit for the treasury. Ironically, Congress is trying to kill the bank and nearly succeeded in 2015. Just when the West needs to step up most, the U.S. Congress is stepping back.

PART 03 competitive connectivity

CHAPTER 10
HOPSCOTCH ACROSS THE OCEANS

An Empire of Enclaves

In 1524, Spanish conquistador Hernán Cortés declared, "He who controls the passage between the oceans may consider himself master of the world." In the centuries that followed, China was among the many to make colonial concessions to European subjugators. Today, China has flipped the tables.

While Spain and Portugal, the first truly global empires, gained dominance by brutally overpowering targets, China is more closely modeled on the Netherlands. Chartered in 1602, the Dutch East India Company is recognized as the first multinational corporation, funded by selling stocks and bonds. Rather than conquering with military might, the Dutch deployed more merchant ships and traders—5,000 and 1 million, respectively—over two centuries than the rest of Europe combined. They sought not to wrestle control of the seas, but of the ports of access. "Like Ming China, the Dutch were about trade, not territory: They were an empire of enclaves," Khanna writes.

Today, those enclaves come in the form of Special Economic Zones (SEZs), designated areas in which business and trade laws differ from the rest of the country within whose borders it is set. Khanna calls SEZs "the commercial garrisons of a supply chain world" and says that by establishing dozens across the globe, China secures resources without the messy politics of subjugation or military competition.

The U.S. has the only navy in the world capable of global power projection, while China has just one outdated aircraft carrier. But China's 2,000-vessel merchant marine fleet is the largest in the world—more than 20 times the size of America's. The U.S. fought to build the Panama Canal, but today, it's Hong Kong-based Hutchison Whampoa that controls its operations.

The vast expansion of Chinese influence leads Khanna to wonder, "As China's trade tentacles span the oceans, will it too send armed galleons to escort its oil tankers and freight-laden ships around the world?"

"Mobile Sovereignty"

China's great weapon in controlling the seas is the HYSY 981—not a ship or a gun, but a drill. Just one of China's technological advantages in the global tug-of-war, the HYSY 981 allows for the kind of kinetic maneuvering previously only possible on land. Unprecedented speed and mobility give China the ability to drill multiple deep-sea wells in disputed waters after just six weeks on the scene. Wang Yilin, chairman of China's state-owned drilling company CNOOC, calls it a strategic weapon in his country's "mobile national sovereignty."

What Khanna calls China's "use it or lose it" approach to resources, which may be claimed but untapped by others, requires more than swift drilling. China builds entire infrastructures on neglected or abandoned islands, sometimes dredging sand to amalgamate smaller formations into one, setting up airstrips, garrisons, signals stations and administrative centers. Some of these maneuvers have led to backlash, most notably in Vietnam in 2014, when protesters angry about Chinese intrusion into the Paracel Islands rioted across the country and torched manufacturing plants that they mistakenly believed to be Chinese. (Khanna's note to supply chain allies: "Hang your flag outside your facilities.") But in other regions where China has taken disputed waters as its own, it has met no conflict.

Without question, the U.S. currently has the naval firepower to stop China, but those days are numbered as Chinese military capabilities grow. More relevant is the disruption a military conflict would have on the supply chain. America's largest employer (outside of the federal government) Wal-Mart would be bankrupted by the move, as 70 percent of its products are imported from China. Even the U.S. military relies on Chinese imports for everything from light bulbs to computer chips. "Direct confrontation is thus not in anyone's interest so long as China needs peace for growth, America needs China for its hardware, and Southeast Asia is dependent on the South China Sea waters as the conduit for almost all its exports," Khanna says. "For Asians, 'Drill, baby, drill' is a rallying cry for both energy security and regional stability."

Sovereigns of the Sea

Many of the major players in the great game for undersea resources are not nations at all but quasi-stateless global firms. New hydraulic and GPS technology have made it possible for deep drilling rigs to untether from the sea floor and nearby coasts, allowing corporations to evade the costly requirements and regulations of traditional government contracts. Shell's Prelude, for example, is three times larger than the Sydney Opera House: It is a floating, all-in-one natural gas platform that liquefies, stores, transports and offloads with no inherent national ties.

Slightly smaller (twice the size of an aircraft carrier) but far more maneuverable are the new Triple-E container ships from Danish shipping giant Maersk. Though too large for the Panama Canal and cranes at American ports, a fleet of 20 Triple-Es, which Khanna calls "a supersize embodiment of hyper-globalization," traverses much of Europe and Asia with a capacity of 36,000 cars, 180 million iPads and 110 million pairs of shoes.

And if a torpedo mistakenly hit a packed Triple-E, "against whom would this be an act of war?" Khanna asks. Denmark, where the ship resides, or South Korea, where it was built? Or will it be viewed as an act of aggression against nations housing the buyers, sellers and manufacturers of the billions in goods aboard?

"Whether or not such a scenario ever occurs," Khanna writes, "an attack on the Maersk Triple-E would be an attack on globalization—which is an attack on everyone."

Escaping the "Malacca Trap"

The world's most heavily trafficked maritime passage is the Strait of Malacca, the narrow pass through Indonesia, Singapore and Malaysia, connecting the South China Sea with the India Ocean. Avoiding the bottleneck of the "Malacca Trap," says Khanna, is the purpose of China's island-building. By gaining access to sufficient resources east of the strait, it can end its reliance altogether.

An even greater threat to Malacca and the traffic Singapore's economy has relied on since its founding in 1819 is an ambitious scheme to dig a canal north of the strait, across Thailand's Kra Isthmus. Nations have dreamt of this project for hundreds of years, but only now has technology made it possible. That China and Japan are in rare agreement over the importance of the infrastructure makes it not just possible, but likely.

China is also financing new pipelines, ports and railways in Bangladesh and Myanmar, increasing its access to the rest of the world. Khanna sees a future, just one generation out, where China will do to the Strait of Malacca what the Panama Canal and American railways did to the the Strait of Magellan, the 19th-century's most traveled waterway: render it largely insignificant.

The Maritime Silk Road

"Ports are to containers and goods what airports are to people and their luggage: the conduits for millions of daily crossings, transactions and deliveries," Khanna writes. Looking back 2,500 years, he believes that the key to understanding who is winning the supply chain tug-of-war lies in the competitions between port cities, which leverage their security and connectivity into large import taxes.

In the last two decades, all the world's major ports have had to expand to accommodate a doubling of global cargo volumes. More transformative than the growth has been the geographic shift, as transatlantic shipping fell from 80 percent of world trade in 1970 to just 40 percent by 2013. The trade routes from the Middle East to the Far East, which Khanna calls the "Maritime Silk Road," has emerged as the world's main passageway.

To bypass the Malacca chokehold, China has spent 50 years subsidizing construction of the high-altitude Karakoram Highway network that leads from its Xinjiang province through Pakistan to its Gwadar port on the Arabian Sea. Reliance on the Middle Eastern access point led one Chinese general to dub Pakistan "China's Israel"—the ally it would never abandon. Less than 100 kilometers west of Gwadar, India is leading the development of Iran's Chabahar port to gain a foothold in Central Asian trade. Though as China funds a crucial gas pipeline between Iran and Pakistan, India could inadvertently be smoothing another Chinese path to the Arabian Sea.

Gwadar is just one piece of China's so-called "string of pearls" strategy, developing access points on either side of India, as well as Myanmar's Maday Island and Sri Lanka's Hambantota port. Heavy investment into both weapons and infrastructure made China a favorite ally of Sri Lanka under former President Mahinda Rajapaksa, who used Chinese aid to brutally end his country's long civil war. But current President Maithripala Sirisena fears that Sri Lanka's $8 billion debt to China has his country on a path to becoming a "slave colony." Now, Khanna says, "India is making the most of Sri Lanka's growing suspicion of China" as it leverages Chinese infrastructure to more efficiently deliver its own projects, from railways to housing.

Whereas Sri Lanka was a European colony from the 15th century into the 20th, should China overextend in the 21st century, Khanna says, the country is prepared to resist—armed with Chinese weapons.

Atlantic Cities

Just as the opening of the Panama Canal devastated the no-longer-necessary Chilean port of Valparaíso in 1914, Nicaragua will attempt to do the same to Panama City. Funded by Chinese telecom tycoon Wang Jing, the planned 220-kilometer Grand Canal could open as soon as 2020. At $50 billion, the project is budgeted to be twice Nicaragua's GDP and could create 50,000 jobs. The canal, wider than Panama's, would allow for more and larger traffic—including the Triple-E—prompting the U.S. port cities of Norfolk and Savannah to invest heavily in new technologies that would allow them to keep pace. Puerto Rico has gone so far as to entirely eliminate its capital gains tax in the hopes of attracting investment and becoming the "Singapore of the Caribbean," while Cuba's re-establishment of relations with the U.S. has brought new interest in the island nation from China, Brazil and Singapore.

Khanna believes it's too soon to say which of these ports will succeed in shifting global supply chain patterns their way. But he says they are all "signs that we are increasingly a coastal urban civilization re-engineering the planet to smooth intercontinental connectivity—for supply to meet demand."

The Capital of the Arctic

For decades, the Arctic has gone largely untouched and been completely inaccessible for half of most years. But as Arctic temperatures rise—four degrees Celsius in the last half-century—and ice caps melt, that is changing rapidly. In 2010, Russia issued four permits for Arctic passage. Just three years later, it issued 400. In the global tug-of-war, the advantages of the Arctic make the bitter weather more than worth it.

The Arctic features two major shipping corridors. The Northern Sea Route connects Eastern Asia with Northern Europe and shaves two weeks off the more traditional route through the Suez Canal. Meanwhile, the Northwest Passage, from East Asia to North America's East Coast, offers a path that is 10,000 kilometers shorter than traveling the Panama Canal.

Russia is just one country setting its sights on the Arctic for natural resources, making the polar region its largest source of new gas production. As yet, these efforts have been peaceful, even prompting Russia to settle old Arctic territorial disputes with Norway and the U.S. But it also has nations preparing their defenses, with Canada building up its military in the north and the U.S. Navy releasing an "Arctic Roadmap" to defend its oil interests in the region. Russia and China have also conducted joint naval exercises near the Bering Strait. No less than a dozen countries have claims on the Arctic, many of them going to Denmark. But without the muscle to back up those claims, China and Russia have maneuvered ice-breaking ships at their discretion.

As industry grows around it, Norway's Kirkenes, the world's northernmost city, is becoming the capital of the Arctic. The embodiment of the connectivity map, Kirkenes borders Russia's town of Nikel and has been called "Norway's Russian city," with thousands of Russian residents, signs printed in Russian and Norwegian and a special "border visa" allowing citizens of both countries to cross freely. The town is even equidistant from the two capitals—2,000 kilometers from both Moscow and Oslo.

If the planet continues to warm, the Arctic will become even more desirable, Khanna says, pointing to projections that by 2100, the Persian Gulf region will be so oppressively hot that humans will not be able to safely spend more than a few hours outside. Within his own lifetime, Khanna believes he could see the population of the Arctic balloon from 4 million to 400 million.

Of course, no country would want to take on the burden of meeting the needs of such a population explosion alone. "As the earth's overpopulated equatorial latitudes experience drought, crop failure and desertification while the depopulated far northern latitudes experience thaw, warming, and abundance," Khanna wonders, "will mass migrations to Canada and Russia turn them into internationally governed agribusiness colonies?"

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CHAPTER 11
IF YOU BUILD IT, THEY WILL COME

Dubai: Home to the World

As it usurps the greatest Western metropolises to become the most visited and diverse city on the planet, Dubai, says Khanna, is brashly claiming the title, "center of the world." With the planet's highest foreign-born population—90 percent—and more daily travelers than any other city, it is no surprise that Dubai's is the one airport with direct flights to each of the world's major hubs. "For the increasing millions who call Dubai home, to be there is to be everywhere," Khanna writes, "which can be superior to traditional notions of great cities being deeply rooted somewhere."

A notable pearl fishing village for much of its history, Dubai began to transform in the 1970s as the UAE simultaneously gained independence and discovered modest quantities of oil. But it was soon after, in the establishment of Jebel Ali—a modern port for shipping traffic between Europe and Asia—that Dubai gained the leverage to "literally bend the world its way." Its strategic placement in the center of the oil, gold and textile trades brought opportunity-seekers in all fields and every corner of the globe. As such, Dubai's concentric circles of culture offer everything from Burger King and sari shops to patisseries and Chinese massage parlors—all on the same block.

That the UAE thrives while its fellow postcolonial countries struggle was far from foreordained, Khanna says. It came from a staunch belief that building a country must rely as much on physical modernization as institutional. The focus on building up, then expanding beyond Abu Dhabi's oil and Dubai's ports, has transformed into what Khanna calls a cities-state, "a devolved federation with an organic internal division of labor and deepening common identity." Now, he says, Abu Dubai is the de facto capital of the Arab world, where people from throughout the region compete for Emirati nationality and the opportunity it brings. In surrounding nations, youth turn increasingly to violence, but in the UAE, they can focus their energy on a multitude of ventures, including a thriving startup scene.

Khanna notes that Dubai's success challenges the assumption of Western democratic superiority. But he also points out that unlike the surrounding authoritarian kingdoms, the UAE is a hybrid government. While the monarchy provides stability, Dubai itself is a cluster of specialized cities within it—Media City, Internet City, Healthcare City, Textile City and others—each a special economic zone free of the regulations that create friction for each particular industry. It's why Khanna sees UAE's royal family as presiding over a supply chain system that is independent of its actual soil.

First Port of Call

By 2020, the biggest rival to Dubai's shipping port prowess could be a city that does not yet exist on any map, says Khanna. Saudi Arabia's King Abdullah Economic City (KAEC) was launched through an IPO in 2013 and, according to its CEO Fahd al-Rasheed, it will be "the world's first fully integrated private city." Once this new, ultramodern port is operational, the lion's share of cargo traffic passing through the Suez Canal would be able to significantly cut shipping time by bypassing Dubai and more efficiently move goods to the high-speed railways and 10-lane highways leading to Mecca, Medina, Riyadh and beyond. As Saudi oil supplies wane, Khanna says KAEC is how the kingdom will insert itself into the global supply chain—at Dubai's expense.

Or, it could be “the sleepy sultanate of Oman” that dethrones Dubai. Khanna writes that “While Oman already has a number of ports near its main cities such as Salalah, the new port of Duqm will be the country’s first fully integrated port and supply chain hub.” Currently, more than 70 percent of goods entering Dubai’s Jebel Ali port are bound for Saudi Arabia, and Duqm would finally allow Asian exporters the possibility of opting out of the logjam.

For decades, Dubai has been the change leader, but now others are catching up as the “Dubai effect” accelerates. “Once both KAEC and Duqm are up and running,” Khanna writes, “Jebel Ali needs to have transitioned toward a more diversified economy of logistics and real estate along the ‘Abu-Dubai’ corridor.”

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CHAPTER 12

GETTING ON THE MAP

Pop-Up Cities

Even before Venice and Genoa became thriving centers of trade during the Renaissance, there have been virtually autonomous cities of commerce dating back to the ancient Greek port city of Delos. The planet's increasing interconnection has made such economic nodes all the more crucial, and today they take the form of more than 4,000 special economic zones around the globe, exempt from local laws that can cause friction and governed by industry-friendly rules that increase flow.

For overpopulated countries in desperate need of modernization—from India and Indonesia to Nigeria—Khanna says, "SEZs represent a strategic option to escape histories of failure." In these countries, where half of all national infrastructure projects come from private enterprise, he believes welcoming in the foreign supply chain is the only way the world's periphery has any hope of joining the core.

He writes: "Coca-Cola bottling plants, Chevron gas production facilities, and Firestone rubber plantations are just some of the thousands of supply chain nodes run by companies where all services, and even security, are largely provided by the employer rather than the state."

From Exclave to Enclave

SEZs, says Khanna, are by nature less enclave than exclave, both segmented from the economy and segregated from the society.

That is why—unless the goal is simply to flood markets with cheap Chinese goods—countries must leverage that foreign investment to ensure it improves national infrastructure, education and social systems.

He sees this transformation happening throughout the world. “Whereas previously SEZs were exempt from local regulations and even civil laws, today developing countries are becoming smarter and more confident, establishing parastatal agencies to represent national interests such as higher wages and standards and promoting local industry within the zones.”

The goal, though, must not be SEZs but to carry those lessons into a nationwide tone of “nondiscriminatory investment and one-stop efficiency,” he says. Slovenia, for example, has phased out foreign trade zones and become a transparently run EU member with an educated workforce and competitive tax base. Likewise, Hong Kong and Singapore evolved from trade entrepôts to global cities with thriving societies.

> “What began as SEZs,” Khanna says, “can become multidimensional cities with life beyond the supply chain.”

China’s Supersize SEZs

The shift in China’s economy from 1990 to 2010 offers key insight into its growth. In those two decades, agriculture fell from 27 percent of the economy to just 10 percent, while the service sector rose from 30 percent to 44 percent. That path is the result of China’s economic master planning, which Khanna says combined urbanization, SEZs and innovation to breed megacities that have become pillars of innovation and growth.

Guangzhou, capital of Guangdong province, has seen “perhaps the greatest shift in supply chains that has ever taken place.” Its close proximity to Hong Kong made the Guangzhou Free Trade Zone, founded in 1992, a popular convention site and an ideal location for SEZs focusing on logistics and export processing. Less than a decade-and-a-half later, Guangzhou began merging its disparate zones into interconnected units that united the surrounding delta region around it. Now, even as Guangzhou continues to flourish as a manufacturing hub, it grows increasingly cosmopolitan with sleek skyscrapers, modern art museums, an upscale opera house and leafy boulevards with bronze statues of Albert Einstein and other global luminaries.

In the Central Chinese province of Sichuan, Chengdu remains best known for spicy food and panda sanctuaries. But as the high-speed rail's midway point between the East Coast and Tibet, Chengdu has been designated the country's central logistics, commercial, science and communications hub. As China has moved up the global supply chain and value has shifted from simply exporting beyond China to trading within it, Chengdu's strategic value has expanded greatly. After decades of investment, global firms are now establishing logistics and R&D campuses in the landlocked city.

> "Focusing on the right cities and right supply chains lies at the heart of why China is the world's largest economy and newest super power."

Master Planning for Megacities

Once considered a model for poor countries, rich nations are also now utilizing the SEZ model. South Korea's Songdo International Business District is a "smart city" within a three-hour flight radius of more than one-quarter of the world's population, a high-tech global R&D hub with zero-emissions buildings and homes outfitted with telepresence monitors. Meanwhile, Japan has deregulated numerous zones in its major cities to attract investment, and East London's Royal Albert Dock has been overhauled into a tax-free bridgehead for Asian businesses.

The success of China's SEZs has fueled growth that has led to a different kind of urban planning, not growing, but accommodating booming populations. To combat the suburban flight that robs cities of valuable resources, overcrowded Beijing and Shanghai have established gated satellite towns within their urban orbits.

What binds these examples is that each is advancing through deliberate infrastructure planning. In contrast, Khanna points to cities like Caracas and Karachi, both growing but without the infrastructure expansion to accommodate their populations. As a result of insufficient planning and militant governments, he calls these cities "ungoverned black holes," hubs not of progress, but of slums, black markets and lawlessness. "The willful construction of new cities from scratch or upgraded districts of megacities to accommodate burgeoning populations can make the difference between sustainable and inclusive societies and total social disorder."

City Building as State Building

Three-quarters of the world lack basic infrastructure and utilities, and one-third of the population—including half of all children—live in poverty. Many have limited access to water, electricity and basic sanitation, to say nothing of the transportation corridors and Internet access that provide real opportunity. To Khanna, "This means *city building* should be the path to state building—not a by-product of it."

The U.S., he argues, has forgotten that the cornerstone of the post-World War II Marshall Plan was a $13 billion investment in European infrastructure. Now, American efforts to support weak governments focus on counterinsurgency even as infrastructure crumbles. At the same time, studies have found that most self-immolating Arabs in 2011 were extralegal entrepreneurs cut off from the capital to start businesses. While Khanna knows that fanatics will exist regardless of economics, he says most would choose jobs over jihad, and a robust financial inclusion strategy would diminish the terrorist recruitment base. "The way to hearts and minds is through the stomach," he says.

A better approach, Khanna believes, can be found in Honduras. Presently the most violent country in the Western Hemisphere, it has recruited engineers, urban planners and investors to leapfrog political reform and set up various economic zones, each designed with a different industry-specific master plan.

> “A global agenda more dominated by supply chain building than democracy building will simply want newly formed or post-conflict entities to be stable and economically viable so that they don’t become humanitarian burdens (again),” Khanna writes. “And yet it may deliver better governance in the end than what we see in the world’s nascent democracies.”

Leapfrogging to Hybrid Governance

SEZs are the fastest way to advance functionally and economically, even as political situations remain in disarray. They allow parts of a nation to join the global supply chain and align the interests of otherwise isolated residents with those of the rest of the world.

And yet, the flexibility that SEZs introduce means their presence and benefits could be fleeting unless host countries are able to leverage the progress into more and more diverse jobs in local economies. “Governments thus make tough demands on companies to transfer technology and train locals such that even when foreign capital moves on, the supply chain does not necessarily leave with it,” Khanna says.

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CHAPTER 13
SUPPLY CHAINS AS SALVATION

Who Runs the Supply Chain?

In a global economy, it can be difficult to find the culprit when tragedy strikes. Such was the case on numerous occasions in 2013, including the discovery of horse meat and pork in British “beef,” the deaths of dozens of Chinese babies due to formula containing melamine and the collapse of a Bangladeshi garment factory, which killed 1,127 workers inside. Identifying the responsible parties means understanding who controls the supply chain—no easy task, Khanna says, given the opaque, complex and poorly governed supply chains that span continents.

And yet, he argues that correcting the mistakes in the supply chain relies on that same interconnection. If it were not for Western retailers, the Bangladeshi factory, along with its convoluted web of suppliers and lax oversight, likely would not have existed. But that same Western demand brought attention to an otherwise forgotten region, leading to much-needed reform. Now, the factory is being rebuilt to meet European industrial standards, and delegations of students and administrators from United World Colleges regularly inspect factories throughout Southeast Asia to ensure school uniforms are made under ethically responsible conditions and from sustainable materials.

While Chinese baby food was poisoning Chinese babies, it was only when industrious expats caused a shortage in England by shipping safe formula to China that authorities initiated stronger protections to keep their own children safe. As for the beef scare, Khanna believes corporations have too much to lose to allow these situations to repeat. "McDonald's has more capacity to inspect itself and more incentive to protect its brand than any government can devote to monitoring it."

Beyond the Law?

Foreign investment can do much to lift a destitute country, but the balance of power between the foreign corporations and indigenous population is always tenuous. In Liberia, Firestone runs the world's largest rubber plantation and has been implicated in child labor practices and cooperating with former Liberian President Charles Taylor's murderous regime. The company also has employed generations of Liberians, effectively governs an entire town and has protected more than 100,000 people from exposure to the recent Ebola epidemic. In oil-rich Nigeria, while the vast majority of citizens live in deep poverty, they have come to depend less on their government for services than on Shell, which has generated more than a quarter of its global reserves in the country since 1937.

"Make no mistake," Khanna says, "that Liberia and Nigeria would not be better off outside the global supply chains—though they would be better served by stronger supply chain governance through policy innovations such as the Extractive Industries Transparency Initiative (EITI) that create revenue management frameworks as far upstream as possible, working directly with governments, multinationals, international lenders and civil society to track production and profits while steering spending toward infrastructure and social good." While EITI remains optional, pressures from consumers and developed nations are moving the supply chain in its direction—proof, he says, that "the supply chain is most useful when it is cleaned up on-site rather than scared away."

To Move or Not to Move?

While there are many painful stories of people uprooted from their territorial land in the name of progress, Khanna points out that many more people move voluntarily to the supply chain than are forced away from it. From the developed world, it can be difficult to comprehend why multitudes would emigrate in the hopes of laboring for slave wages while filling outsiders' pockets. But he has seen the desperation in the lives they leave behind. “People in search of work often have no choice but to fulfill some demand somewhere, even if it is deemed immoral or illegal,” he says, noting that women in such hopeless poverty are often prey for sex traffickers.

The solution, he says, cannot be to remove the opportunities of the global market from these people’s lives, but to more directly manage the supply chain. In Uganda, for example, outside groups have helped ivory poachers find new professions protecting its Odzala National Park. Simply providing fishing boats in Somalia could offer would-be pirates a more desirable path. “Bringing better supply chains to people is the only way to prevent them from being exploited by worse ones.”

The Global Underclass Revolt

The more cities grow and become connected with their counterparts around the globe, “the more their countries feature a double stratification—not only between urban and rural but also between these wealthy, globalized cores and the expanding peripheries of underclass neighborhoods and slums,” says Khanna. What divides the globe will not just be the haves and have-nots, but the countries that do something about it and those that don’t.

The question is more than moral, as income inequality leads to weak economies that rely solely on the narrow consumer base of wealthy elites. As a result of rising joblessness, youth become invisible to the overall economy, and in the years since the financial collapse, the pattern has led to widespread, uncoordinated protests throughout the world, even in places considered hot “growth markets.” In the interwoven global economy, such unrest causes ripples that cannot be ignored, as evidenced by the California dock strikes in 2015, which created costly delays the world over.

Khanna says the unrest has “shifted the contours of economic debates and the metrics used to measure value creation away from only capital generation toward social benefit.” He believes Marx’s global underclass revolt has begun.

The top rungs of the supply chain are not the only places gaining interconnection. For example, Khanna notes that Germany’s IG

Metall is supporting unionization efforts in Alabama, a potential boon for U.S. car workers. But success would mean the state's Mercedes plant could no longer pay workers lower wages and might consider returning home. These types of coordinated, mutually beneficial strategies are helping to keep even more of the world's capital from rising to the top 1 percent of the global economic pyramid. But, he adds, "the world economy will continuously struggle to sustain long-term growth until this pyramid becomes a diamond—with the billions at the base elevated into a large middle class at the center."

To get there, Khanna argues, it is not enough to assume the top 1 percent will create jobs; we must create incentives for them to invest in more job-creating enterprises.

Spend Now, Gain Later

To Khanna, there is no better long-term investment than infrastructure, and he says lasting economic growth requires infrastructure investments of 25 percent or more. He points to America's $25 billion highway system that continues to pay huge returns a half-century after construction. According to Deutsche Bank, such investments have twice the multiplier effect of the more recent and less focused stimulus.

China paid close attention to America's mid-20th-century lessons, now spearheading a glut of new highways, housing and railways. But the teacher seems to have forgotten. With U.S. infrastructure falling into despair, Congress has been unwilling to invest in repairs, much less modern innovations. Investors Warren Buffett and Carl Icahn have taken up the job of trying to revive the freight rail industry, while Google is rolling out fiber to keep pace with the world's quickening Internet speeds.

Even the IMF now preaches infrastructure investment over austerity. Khanna believes that the health of a nation's economy requires not only public and private investment, but efforts to attract inflows from the multiplying pools of global capital.

The Financial Supply Chain

The world's 2,000 billionaires (double the prefinancial-collapse number) represent a pool of capital exceeding $46 trillion, the largest such pool in the world. Behind them is $40 trillion in pension funds, $30 trillion in infrastructure funds, another $30 trillion in mutual funds and bonds, and $8 trillion in central bank reserves. Each of these pools of capital is invested in and co-invested with each other multiple times over, to the extent that it would be virtually impossible to disentangle them. Where some see a house of cards, Khanna finds strength. He notes that the bubbles within the economy can only grow so large before bursting, but "the economic balloon continues to inflate and expand."

> "The financial crisis taught that too much capital concentrated in too few hands generates enormous risks. But unwinding global finance would be the worst form of throwing the baby out with the bathwater. Capitalism does not have to be corporatism. If financial markets are how capital is multiplied, then financial supply chains are how the wealth is spread. We should take advantage of the balloon of global liquidity to unleash more financial supply chains that link capital to value-creating assets such as companies and infrastructures. A world of greater capital distribution would be a more stable one."

PART 05 toward a global society

CHAPTER 14
CYBER CIVILIZATION AND ITS DISCONTENTS

Invisible Infrastructure

The planet has reached the point where the first two W's in World Wide Web have become an understatement. "Telecommunications has leapfrogged all other forms of connectivity," Khanna writes, referring not just to the capability that the Internet has brought but the expanse of hardware that makes it go.

Between 2009 and 2014, telecom companies spent $2 trillion on mobile infrastructure, and another $4 trillion will be spent on new access and faster speeds by 2020. At least 300 undersea Internet cables connect the continents below, while satellites connect the towers that allow our mobile phones to communicate from above. No towers? No problem—at least not for long. Solar cell phones will soon have access to Google's Wi-Fi blimps, connecting off-grid populations.

This invisible infrastructure is not only vast; it's flexible in ways our concrete infrastructure cannot be, Khanna says. In perhaps the clearest example of this, communities in towns across the country have prevented Wal-Marts from opening to protect small businesses. But they cannot stop Amazon from bypassing brick and mortar retail entirely. And if the Internet's currency bitcoin succeeds in acquiring a license to issue credit, Khanna believes it could outmaneuver the banks in bringing vital capital to billions of the world's poorest people.

Walled Gardens or Bumps on the Information Superhighway?
Google controls 20 percent of the world's public Internet traffic, and another 70 percent is controlled by fewer than 30 companies. These companies have been successful for the most part in avoiding state oversight in favor of self-regulating, but Khanna says that barely scratches the surface of the anarchy online. The vast majority of global traffic is hidden from public view, accessible through the Dark Web and Deep Web of highly encrypted, unindexed pages. Whereas the U.S. Department of Commerce once served as de facto webmaster, America's government is now content to sit back and observe, now that the NSA has the ability to access virtually anything.

Khanna calls it perverse that the response to revelations about the NSA has inspired countries to assert their digital sovereignty, either to protect citizens' privacy (Germany) or gain access to citizens' data (Russia). China is even launching an allegedly unhackable quantum communications network connecting Shanghai and Beijing. Even the largest multinational tech firms now play by different rules in different countries, with Twitter, Google and Facebook all abiding by local censorship guidelines. But in the Web's Wild West, copycat pages can pop up just as quickly as they are taken down.

Where laws governing cybertraffic are ineffective, laws for cyberwar are nonexistent, leaving the world in a perpetual war of hack attacks. "The 'Internet of Things' has thus become the 'Internet of Threats,'" says Khanna. Threats come not just from national enemies, but newly born cloud communities like Anonymous, which has declared war on the stateless but landholding terrorist group ISIS. The Internet has also allowed state-like entities to hold elections, conduct diplomatic relations and manage economic affairs, as in the cases of Palestine and Kurdistan, and led to new cyberalliances such as the Digital Five, which is composed of the U.K., New Zealand, Estonia, Israel and South Korea.

The keys to cybersecurity and digital independence lie not only in protections, such as China's state-of-the-art Great Firewall, but in diversification, Khanna says. About a third of the world's countries have just one or two Internet Service Providers (ISP), placing them at serious risk of the disconnection China inflicted upon North Korea in 2014. Therefore, the same conditions that create the Net's unpredictability and volatility could prevent a panic on the scale of the oil embargo of the 1970s. "More connections—even those one cannot control—are better than fewer that one can," he writes.

The Digital Identity Buffet

Fans of science fiction have long fantasized about the days when personalities would be uploadable to virtual avatars in a cyberuniverse, giving us access to the Matrix and Singularity. But already, the Internet has transformed from somewhere we go to a space in which we are, Khanna argues. The cyberworld, he says, is where we exchange money, pursue religious beliefs and facilitate political discourse.

The Internet makes it virtually impossible to escape our identities, but easy to create new ones. In our interconnected digital reality, he says, "Identity has become an amalgamation of social preferences expressed through traditional categories such as religion and ethnicity as well as newer communities built around professions, experiences and causes." In this way, he argues, the traditional definition of identity is disappearing forever.

Spreading the Connective Wealth

In the developing world, an individual's first legal transaction is often acquiring a phone number, often on a prepaid phone with no need for deposit, credit history, bank account or fixed address. It's one reason Khanna believes that "for the bottom billions, connectivity is the gateway to identity." In the developed world, where fiber cables give high-volume investors an added speed advantage, Google has turned those cables into a great equalizer by making that speed available for free in midsized towns around the U.S.

By 2030, everyone is expected to have Internet access through a smartphone or hot spot, opening up the ability to advance one's dignity through information and access. This is not the purely digital world of avatars but a hybrid one—not replacing the old, but providing myriad channels to thrive anew. The intangible infrastructure provides access to the tangible world that was once out of reach for billions. “The more digital flows overcome physical borders,” writes Khanna, “the more connectivity can benefit everyone.”

The Global Digital Workforce

Virtual work portals, such as Upwork and Amazon’s Mechanical Turk, make it simple to hire freelancers across the globe for tasks ranging from simple Internet searches to full website construction. For those hiring from the developed world, the jobs are executed at a fraction of the local cost, but Khanna says, it allows more than 100 million people to earn more income than they could hope to otherwise.

This is far from a developing-world phenomenon. In 2014, 53 million Americans—a third of the national workforce—identified as freelance, and Khanna believes the number is sure to grow. Americans, too, are hiring themselves out through work portals, nocturnally programming for Asian clients.

And yet in 30 U.S. states, the No. 1 profession remains truck driver, a job that cannot be outsourced but may soon become automated. There is no denying that technology will continue to transform our workplace and at an accelerating rate. If the workforce doesn’t transform along with it, it will be left behind.

It’s a fact not lost on companies that are now working to incentivize and sometimes pay for employees to continue their educations and learn more modern skills. In Germany, industries, unions and the government have teamed up for a program that allows workers to scale back to part time as they enter programs that prepare them for tomorrow’s jobs.

> “Unless employees are re-skilled or up-skilled, they may drag society down even as the economy grows more productive and efficient with a smaller workforce.”

05 PART toward a global society

CHAPTER 15
THE GREAT DILUTION

A Mongrel Civilization

The migration that leads to genetic mixing is far from a new phenomenon. It began more than 60,000 years ago, Khanna says, when man first wandered outside of Africa. Today, 300 million people live outside their native countries, with Australia and Canada claiming 27 percent and 20 percent of foreign-born populations, respectively. In London, one of the world's great melting pots, 10 percent of babies are born to mixed race couples, and the most common name for a newborn boy is Muhammad.

For all the efforts to slow immigration in the West—e.g., the U.S. expulsion of 2 million Mexicans during the Obama presidency or Spain's 2014 law expelling North Africans—Khanna sees a trend toward increased flow. In Germany, for example, the government is considering housing up to a million migrants in abandoned towns, while one Egyptian billionaire has proposed purchasing a depopulated Greek or Italian island to house Arab refugees. More compelling than the evidence for the trend are the reasons behind it. Khanna finds the argument that immigration hinders employment for locals to be hollow. Not only do domestic and foreign labor forces rarely compete, he argues that they actually complement one another, with immigrants working jobs that would otherwise go unfilled at the wages offered, thus keeping domestic prices low. Furthermore, he says that expelling Mexicans has done nothing to stop the crime that flows over the border. If Americans are serious about stopping crime, Khanna suggests sending

Mexicans home armed with the skills and money that will diminish both the urges to migrate and defy the law.

“With public debts soaring, there is a pragmatic need to leverage migrants rather than continuing to view them as a burden,” he writes. “Farsighted countries create incentives for migrants to contribute in services what they cannot in wealth, such as working in sanitation and infrastructure upkeep, while higher-skilled migrants work in health care and foreigner integration programs.” It’s difficult to imagine the U.S. without the benefit of skilled transplants. Half of Silicon Valley startups are founded by immigrants, and children of immigrants have excelled academically and in every professional field. Yet America’s tightening restrictions have allowed countries, including neighboring Canada, to attract the global talent that would have defaulted to the U.S. in years past—as well as the benefits that come with them.

“The combination of urbanization and immigration has made Toronto—alongside London, New York, Dubai and Singapore—one of the world’s most diluted cities with as many foreign-born residents as native populations,” says Khanna. At a time when trade is critical to survival, this level of diversity helps communities to become “naturally networked,” and global cities provide an alternative to nationalism as the foundation of global order.

Berlin provides case in point. Just a quarter of a century after Germany’s reunification, Khanna calls Berlin “the world’s coolest city, with ultramodern architecture, a buzzing tech scene and productive cultural collisions unseen anywhere else on the continent.” The secret formula, he says, has been keeping rent affordable and maintaining openness to immigrants. As a result, a traveler is nearly as likely to hear English as German in the streets, and in either case, it is probably not the speaker’s native tongue. It’s a recipe that Khanna believes has made Berlin the most prepared of all European cities to meet the needs of the 21st century. “The rest of Europe must learn from Berlin: Exclusive thinking is a recipe for suicide.”

Global Passports

Only in the last century has a passport been a universally accepted necessity for international travel. Many viewed them as hindrances to vital trade and travel. But after war ravaged the entire world twice, Khanna says, the passport became the symbol of a problematic message: “Capital is welcome everywhere, labor not as much.”

He thinks it’s time to change that message. For one thing, it makes no sense to create obstacles for a tourism industry that accounts for 10 percent of world GDP. Even more meaningful, the Organization for Economic Cooperation and Development (OECD) estimates that just a 3 percent increase in labor mobility would add $300 billion to families at the end of the remittance chain, and the Center for Global Development argues that opening borders to temporary worker flow could literally double global GDP.

Migration, he believes, could also become the moral issue of the 21st century, with divisions between rich and poor both more pronounced and significantly more permanent in certain countries. To deny geographic mobility is to deny upward mobility and to turn a nation’s borders into prison bars. And with the shift to a global freelance economy, mobility simply means more to many people than nationality.

For these reasons, Khanna proposes a passport-supplementing “global visa” linked to Interpol that would allow visa-free access to properly screened and qualified individuals. For the 150 million semipermanent migrant guest workers and their employers, this would eliminate mountains of costly, time-consuming frictions that go into recruiting and hiring new seasonal workers each year. Many of these workers never return “home” but are forced to identify by passports that provide little meaning and even less benefit.

After British and American citizens have been found to join ISIS and al-Qaida, a global visa could also prove to be a security asset. Actually screening for questionable associations, rather than holding certain nationalities to higher scrutiny, would be far more effective than the cloak of credibility now offered by Western passports.

Global Citizens

Migrant laborers are not the only ones faced with a national identity amalgamation of origin, citizenship, residence and more. Today's global citizens include investment bankers, management consultants, professors, athletes and military mercenaries. The growing ranks of what Khanna calls the "permanent expatriate elite class" have developed loyalties that are less location-driven than purpose-driven, and with good reason. "Is a Google employee from Malaysia, educated in the United States, living in London, but assigned to the company's thriving campus in Nairobi a Malaysian, American, Londoner or Googler?"

He adds that this is not a class dominated by Westerners, but balanced among those born in the Americas, Europe and Asia and working in virtually every profession.

> "Russian students in Europe joining American banks, a Malaysian Googler in Africa and Serbian consultants around the Balkans are all examples of a new generation that finds its calling beyond national boundaries and pledges allegiance to the Independent Republic of the Supply Chain."

Citizenship Arbitrage

Khanna cites a wealth management advisor who said, "There is a growing breed of individuals who don't have time to be in one country for more than four months."

It's the result of efforts by countries the world over, luring investment with everything at their disposal. Europe's "golden visa"—citizenship in exchange for real estate investment with a profit guarantee—is just the latest perk targeting those with investable assets of more than $500,000, a class of people Credit Suisse calls the "mass affluent."

Americans make for easy targets, as they are the only citizens in the world taxed on global income at home. Each year, 4,000 wealthy Americans renounce their citizenship, and Khanna says the number will rise as the IRS doubles down on its efforts to capture evaders.

05 PART

toward a global society

CHAPTER 16
WHEN NATURE HAS ITS SAY, GET OUT OF THE WAY

Retreat From the Water's Edge
For centuries, natural disasters, from volcanoes to tsunamis, have periodically brought the world economy to its knees. Mankind has always managed to bounce back and, with varying degrees of success, look for ways to prepare for the next catastrophe.

But Khanna believes the combination of rising sea levels and urbanization near shores has shifted the need from resilience to resettlement. More than one-third of Asia's 4 billion people live within 100 kilometers of a steadily rising ocean, and 316 U.S. cities are expected to be submerged by the end of this century.

The low-lying Netherlands survived the last millennium because the medieval Dutch had the foresight to build a series of dykes and levies that kept floodwaters at bay. Today, that same forward thinking has the Dutch pre-emptively and intentionally flooding high-risk areas based on climate projection models and relocating affected towns before real disaster can strike. This is the thinking necessary in a climate change world, Khanna argues, but few have shown the willingness to take the necessary steps.

How to Negotiate with Nature
Nature is as complex as it is fierce. Of the growing ranks of climate refugees, the vast majority have fled severe water shortage caused by the same phenomena that are causing massive flooding, as ice caps melt and seawaters rise. Even as rising seas threaten coastal

cities, the sapping of groundwater to meet ever-increasing water need is sinking those cities by compressing the limestone foundations beneath them. Bangkok, for example, has dropped a full meter since the 1970s, and sinkholes have been appearing in China, Central America and the U.S. After centuries of guzzling from the waters below, Tokyo has started what Khanna believes will be a new aquifer trend: replenishing them.

We are beginning another era in which water infrastructure—for desalination, transportation and recycling—will surpass the importance of oil infrastructure. Water has long been critical to cooling power plants, especially coal and nuclear ones, but now Israel and the Bill Gates-backed TerraPower are pioneering nuclear-powered water recycling technology, which could provide clean water to billions in need. But not all efforts need to be complicated or ambitious.

"One thing almost all cities could do better is maximize their local resources through more robust conservation and sensible pricing," Khanna says. He points to Switzerland, which has pioneered a pricing structure that includes recycling the water, along with capturing, treating and delivering it.

Another way to improve the sustainability of cities is to leave them. Despite the trend away from rural areas, some Western countries are experiencing mild deurbanization. "In America, several thousand eco-conscious youth (including many college graduates) have returned to farming (not just marijuana), injecting life into otherwise defunct towns," Khanna writes. While this is far more anomaly than movement, he adds that "agriculture is one of the best performing asset classes in terms of both operational cash yields and asset appreciation." Perhaps more people will come to realize that investments in the environment don't always take generations to pay off.

Location, Location, Location

The most dire scientific predictions see London underwater in our lifetimes. By the end of the century, much of the world could be uninhabitable and snowless, with tropical vacations taking you to Detroit—inland, bordering fresh water and, by then, balmy. “We may have no choice but to actively accelerate our collective shift from political to functional geography,” Khanna writes. The large-scale resettlement of a planet full of climate refugees, he goes on to say, is not something we can plan for at the last minute.

In this too, he believes the supply chain can provide the answer. The world’s oldest and largest multistakeholder environmental organization, the International Union for Conservation of Nature has devised a Protected Areas Category System in which partner companies or agencies are matched with countries to help them manage and protect designated nature reserves and sustainable resource development areas. Numerous EU countries, along with Brazil and even Russia, are taking advantage of this opportunity to preserve natural habitats for future generations.

If we were to map these areas too—our irreplaceable and vital geological treasures—Khanna believes “we might work as hard to protect nature’s boundaries as we do to defend political ones.”

conclusion

FROM CONNECTIVITY TO RESILIENCE

A New Moral Compass

"Too little trade is a much bigger problem than unfair trade, too little Internet access is a much bigger problem than the digital divide, too little wealth creation is a much bigger problem than high inequality and too few genetically modified crops is a much bigger problem than corporate farming," says Khanna, summing up the beliefs behind the book. Globalization, he argues, has not perfected the world, but it has made it a better place for billions while providing our best hope for an even better future.

At the core of globalization is connectivity, which he sees binding together the Bangladeshi garment worker and the Saks Fifth Avenue shopper, the Congolese miner with the diamond customer in Hong Kong. He understands that these connections can seem trivial, but there is no question that they bring awareness to the conditions of people who would not likely cross the minds of most in the developed world otherwise. In other words, connectivity enables empathy.

"A supply chain order is thus not a libertarian fantasy in which markets rule the world. Nor is it universal socialist paradise," he says. "It is an evolutionary reality that we should construct pragmatic strategies to harness rather than retreating into populist mythology and antiquated vocabularies."

Chief among those strategies is leveraging connectedness toward moral gains, to help achieve the greatest good for the greatest number of people. That begins with allowing people to move to free themselves of famine, oppression, natural disaster, war—or even simply to find work. It means mapping our world by the functional bonds that connect us rather than the artificial barriers that divide. With such a shift, Khanna envisions a future in which governments don't own the world but manage parts of it, better understanding the sphere we all share.

> "This, then, is the emergent global social contract: If we can manage to socialize (or even relieve) the costs accumulated in order to unlock the productive potential of billions of underserved and underemployed people, we will also collectively share in the wealth of a much richer global society. There is no formal consensus about what kind of global society we want, even as we are accelerating the construction of it. We should embrace the journey."

Networks That Run Themselves

The pendulum of power has swung wildly over the last several centuries. The 1814 Congress System, the 1919 Treaty of Versailles and the League of Nations all came about to guide the world away from its history of violent power struggles. And all failed—possibly leading to two world wars and at best failing to prevent them.

Where contrived attempts to force a paradigm shift failed, Khanna believes the supply chain will succeed. America's global dominance will not give way to Chinese supremacy the same way the British Empire fumbled the torch into U.S. hands. China could not afford it.

> "With the tide of devolution sweeping the planet and states focused on self-preservation, global solidarity is more likely to emerge from connective supply chains than from vague treaties among divided nations. Societies will never feel the mutual empathy essential for global peace unless our maps and narratives emphasize their connectivity over political and territorial divisions."

For all the derision about the role of globalization and outsourcing on humanity, Khanna believes that globalization will do for humanity what treaties and good intentions never could: bring cohesion to the planet. Treaties work only when all parties want them to. Connectivity succeeds because we need it to.

Building a Borderless World

In the end, who wins the global connectivity tug-of-war? For Khanna, we all win so long as it continues. The constant investment in more and better ways to connect give us security through diversification along with the ever-entangling web of connectivity that ensures no nation, region or people can thrive alone. The first step to maximizing those benefits is acknowledging this reality: that with each successive map, connections are growing in number and significance, just as divisions lose their value.

> "There are no greater stakes than in the question of moving from a nations-borders world to a flow-friction world. We need a more borderless world because we can't afford destructive territorial conflict, because correcting the mismatch of people and resources can unlock incredible human and economic potential, because so few states provide sufficient welfare for their citizens and because so many billions have yet to fully benefit from globalization. Borders are not the antidote to risk and uncertainty; more connections are. But if we want to enjoy the benefits of a borderless world, we have to build it first. Our fate hangs in the balance."

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