Psychiatrist Elisabeth Kübler-Ross described five stages of grief: denial, anger, bargaining, depression, and acceptance. Over the past decade America has been in denial about China’s emergence as a global power. We couldn’t believe a country that for generations was a byword for poverty could compete with us. With Donald Trump’s election in 2016 we’ve transitioned to anger. As matters stand, we’ll be bargaining before long.

For thousands of years China’s internal weaknesses—natural disaster, famine, plague, civil unrest, and foreign invasion—kept its attention inward. We are now at the greatest turning point in Chinese history since its unification in the 3rd century B.C. China is turning outward—but doesn’t want to rule you. Like the Borg in Star Trek, it wants to assimilate you.

President Trump is right to insist that America’s status quo with China can’t continue. He campaigned against their systemic theft of U.S. intellectual property and the migration of our manufacturing to China. He reversed 20 years of benign neglect toward China’s challenge to our strategic dominance and took vigorous steps to check China’s expansion. But he hasn’t succeeded. Thus far he has addressed symptoms rather than causes. Our trade war with China settled into an uneasy truce by the end of 2019, with modest damage to both economies but no clear winner.

Industrial Revolution

The past year was a watershed. As matters stand the United States will be overtaken by China in the next several years. China is developing its own intellectual property in key areas. Some of it is better than ours—in artificial intelligence, telecommunications, cryptography, and electronic warfare. In other key fields like quantum computing—possibly the holy grail of 21st-century technology—it’s hard to tell who’s winning, but China is outspending us by a huge margin.

China’s first great multinational company, Huawei, is rolling out fifth generation (5G) mobile broadband across the whole of Eurasia, from Vladivostok, Russia to Bristol, England, despite a full-court press by the Trump Administration to stop it. In January 2020 Great Britain—America’s closest ally—brushed off Trump’s personal intervention and allowed Huawei to build part of Britain’s 5G network. The European Community announced it would take no measures to exclude the Chinese giant. Washington tried to strangle Huawei by slapping export controls on U.S. components for 5G equipment and smartphones, only to see Huawei continue expanding using Asian components while achieving self-sufficiency in chip production.

Former House Speaker Newt Gingrich deplored this as “the greatest strategic disaster in U.S. history.” At stake are not only the sinews of the new industrial age, but scores of spinoff applications that will transform manufacturing, mining, health care, finance, transportation, and retailing—virtually the entirety of economic life—in what China calls the Fourth Industrial Revolution.

China has its own challenges, to be sure. A deadly variant of coronavirus has killed more than 2,000 Chinese and sickened tens
“This book is a must-read: Kenneth S. Stern fearlessly analyzes the political and emotional turmoil over the Israeli/Palestinian conflict, perhaps the most complex and inflammatory problem of our time, with extraordinary care, concern, and insight. He is an intellectual hero.”

–Susannah Heschel, Dartmouth College
of thousands of others, in a severe test of governance for the Beijing regime. The viral epidemic reveals China’s vulnerability—but also the power and ruthlessness of the Chinese state. Chinese scientists sequenced the virus’s genome within two weeks of the outbreak and posted it to enable the world’s pharmaceutical labs to work on a vaccine. China constructed two new thousand-bed hospitals in Wuhan in barely more than ten days. The Chinese state used its absolute power to quarantine cities as large as some European countries, interdict transportation, and control the movement of hundreds of millions of people. It analyzed locational data from nearly a billion smartphones to identify likely clusters of infection, in what appears to be the largest-scale application of artificial intelligence to date.

U.S. officials warn that Huawei’s 5G systems will allow China to eavesdrop on the world’s communications and steal the world’s data. That’s a risk—the “Five Eyes” group of English-speaking countries has monitored the world’s signal traffic for decades—but other risks are bigger. End-to-end encryption of voice calls is already here, and Chinese-led breakthroughs in cryptography soon will make it impossible for anyone to steal large amounts of data. But Huawei doesn’t think it needs to steal the world’s data. It expects the world to hand it over for free.

**Not-So-Secret Plan**

Since publication of Gordon G. Chang’s popular *The Coming Collapse of China* in 2001, China’s per capita Gross Domestic Product has risen five-fold. Chinese cities that were Third World slums have blossomed into steel-and-glass behemoths that look like sci-fi movie sets—not just Shanghai, Shenzhen, and Guangzhou, but cities deep in the interior like Chengdu and Chongqing, each with 30 million inhabitants. China’s growth has slowed to 6% a year—about three times America’s rate. China’s debt burden is slightly over three times its GDP, about the same as America’s.

Professor Graham Allison warned in *Destined for War* (2017) that war is the typical outcome when a rising power challenges an established one. There are many things wrong with Allison’s thesis, as I argued in the CRB’s Fall 2017 issue (“Must We Fight?”). The most obvious is practical: China has invested massively in rocketry, hypervelocity glide missiles, submarines, and other military technologies that deny access to China’s coast and its environs. A 2019 University of Sydney study warned that China’s missile force could neutralize most American Western Pacific assets within hours after war’s outbreak. Even if we wished to pursue a military option against China, we have been blocked from doing so.

Hudson Institute Director of the Center on Chinese Strategy Michael Pillsbury believes China has a secret plan to displace the United States as the world’s leading superpower, but there’s nothing secret about its high-tech military buildup. China has demonstrated its ability to sink American ships and blind U.S. satellites. The combination of Chinese rocketry, submarines, electronic countermeasures, and air defense makes our Western Pacific military assets sitting ducks. We lost the South China Sea years ago. Unsurprisingly, the Philippines in February 2020 unilaterally withdrew from its joint defense agreement with the United States. When our oldest ally in Asia goes to the other side, we should ask ourselves: why?

Nor is there anything secret about China’s global ambitions. It aims to integrate Eurasia into a Chinese economic sphere under the multi-trillion-dollar Belt and Road Initiative, and to use its 5G broadband dominance to lead a Fourth Industrial Revolution. Huawei’s website has advertised China’s plan for global economic supremacy since 2011; China has proclaimed it with great fanfare—and considerable expense—at every telecommunications conference for the past ten years. China’s military ambition is important, but subordinate to an economic and technological vision so vast that American analysts have lacked the intellectual bandwidth to perceive it.

American strategists seem to think we’re dealing with the Soviet Union of the 1980s. If only it were that easy! Communism is a bankrupt ideology, a miserable failure at social and economic organization. China is something entirely different. Soviet Communists told their most talented scientists, “Invent something new, and we’ll give you a medal, and maybe a dacha.” China says, “Invent something new, launch an Initial Public Offering, and become a billionaire.” By the end of 2019 there were 285 billionaires in China—including Alibaba’s Jack Ma, who, like many of his fellow billionaires, is a Communist Party member. There are more Marxists in Cambridge, Massachusetts, than in all of China. I met a professor Marxist over dinner in Beijing a couple of years ago—a pleasant fellow who taught Marxist-Leninist doctrine at the Communist Party’s cadre school. His daughter had just graduated from a top American university; he asked if I could help her get a job on Wall Street.
We aren’t facing drunken, corrupt Soviet bureaucrats, but a Mandarin elite cherry-picked from the brightest university graduates of the world’s largest country. America confronts something far more daunting than moth-eaten Marxism: a 5,000-year-old empire that is pragmatic, curious, adaptive, ruthless—and hungry. China’s current regime is cruel, but no crueler than the Qin dynasty that buried a million conscript laborers in the Great Wall. China was, and remains, utterly ruthless.

Huawei provides the template for the new Chinese empire. The company bankrupted its competition and hired their talent. It dominates R&D in mobile broadband because its 50,000 foreign employees do most of the basic research. For the first time in its long history, China has succeeded in assimilating a critical mass of the West’s scientific and engineering elite and harnessing them to its global ambitions.

Mobile broadband is just the beginning. China’s goal is to own the ‘control points’ in every sphere of economic life. Think of industrial robots that talk to each other over 5G networks and employ artificial intelligence to design production techniques without human input; medical diagnostics drawing on continuously-updated vital signs and genetic histories of a billion people; mining robots directed by white-coated technicians with virtual reality visors; and a dozen other disruptive technologies made possible by the marriage of broadband and A.I.

China has begged, borrowed, and stolen the technology that made its economy as big as America’s. It pays $36 billion a year in royalties for intellectual property—but its bill should be much bigger. Outright thefts include the plans for Boeing’s C-17 military transport aircraft, phished by Chinese hackers and used to build a knockoff, the Y-20 transport. Other plans are lifted by Western-employed Chinese engineers who learn their employers’ technology and walk out the door with the skills to duplicate it. Still more plans are simply handed over by Western companies eager to access the Chinese market and happy to give away the family jewels for the privilege. That’s bad for their long-term competitiveness—but good for the CEO’s stock options at a five-year horizon.

The most important thing China appropriated from the United States is the one big idea that made America the world’s only superpower after the Soviet Union’s collapse. That idea is to drive fundamental R&D through the aggressive pursuit of superior weapons systems, and let the spinoffs trickle down to the civilian economy. China is like a two-stage rocket. The export-driven, cheap labor economy that turned it from an impoverished rural country into a prosperous urbanized giant after Deng Xiaoping’s reforms was the booster. China began to discard that booster ten years ago. The next stage is Huawei’s Fourth Industrial Revolution, driven by artificial intelligence, robotics, the internet, and massive big data applications to supply-chain management, transportation, health care, and other fields.

**Flight of the Bumblebee**

America’s response to China’s global ambitions has failed. There are two big reasons for this failure. First, we chronically underestimate China’s capabilities and ambitions. Second, we have failed to address our own problems. China envisions a virtual empire in which game-changing technology dominates production, purchasing, finance, and transportation. It puts massive resources into basic research, science education, and infrastructure. America’s commitment to basic research and science education, in contrast, has shrunk to roughly half its size during the Reagan Administration.

China’s economy is like the bumblebee that shouldn’t be able to fly—but does. American commentators have trouble explaining China’s success so they pretend it isn’t there, or, if there, won’t be for long. Trump, for example, tweeted on July 30, 2019, that “China is doing very badly, worst year in 27….” Our Economy has become MUCH larger than the Chinese Economy in the last 3 years.”

Whose economy is bigger depends on your measure. In U.S. dollar terms, America’s is much larger. But if you include the relative cost of goods and services, China’s economy is about $4 trillion bigger than America’s, according to the World Bank’s measure of purchasing power parity. That accounts for the fact that domestic Chinese prices are much lower than U.S. prices. A half-hour taxi ride from Chengdu Airport to August 2019 cost me about five U.S. dollars. In any American city it would’ve cost $50 to $70 dollars. In current U.S. dollars, China’s 2018 GDP was about $13 trillion versus over $20 trillion for the U.S. But purchasing power parity is a more informative measure.

A 30-year-old Chinese consumes almost ten times as much as his father or mother did at his birth. Chinese who grew up in homes with dirt floors and outhouses now live in apartments with central heating and indoor plumbing. Chinese who scammed to buy bicycles now can afford cars. Are Chinese government data faked to make things look better? Don’t count on it. Basic indicators of economic activity such as electricity production, freight traffic, and production of key industrial items are verifiable, and they track reported GDP growth closely. China has built the world’s longest highway system (about 90,000 miles), the world’s largest high-speed rail network (about 18,000 miles today, growing to 24,000 miles by 2025), and enough housing to move nearly 600 million people from the countryside to cities. None of this was there 30 years ago. China’s infrastructure is the wonder of the modern world. Compared to China’s airports, roads, and rail lines, most of the United States looks like a Third World country.

China now graduates more scientists and engineers than the United States, Europe, Japan, Taiwan, and South Korea combined, and six times as many as the United States alone. During the past ten years the quality of Chinese scientific education has risen to world standards. Mao Zedong’s Cultural Revolution of the 1960s nearly destroyed China’s university system. Thanks to American graduate schools, Chinese universities have assembled a world-class scientific and engineering faculty. Four out of five doctoral degrees in computer science and electrical engineering in America are awarded to foreign students, of whom Chinese are the largest contingent. Only 5% of American undergraduates major in engineering, which means there aren’t a lot of available faculty positions for recent doctorates.

It’s hard to measure the relative quality of STEM education in China versus the rest of the world. The (London) *Times Higher Education Supplement* includes five Chinese universities in its ranking of the world’s top 50 engineering and technology schools. Executives of Chinese tech companies have told me they prefer not to hire Chinese graduates with a bachelor’s degree from an American university. Chinese programs are more rigorous, they argue, and Chinese students who go overseas probably are the children of well-to-do families who didn’t score well on China’s university entrance exam.

China no longer needs to steal or copy Western technology. Over the past five years...
China has produced the world’s best 5G equipment, some of the world’s fastest supercomputers, hypervelocity strategic missiles, computer chips that rival the best America can design, and an unhackable cybersecurity technology, quantum cryptography. A Chinese robotic spacecraft made the first soft landing on the dark side of the moon in 2019. That’s just the beginning.

Research and Debt

China now spends about 2.2% of GDP on research and development, compared to 2.8% in the United States—but, given the relative sizes of our economies, their R&D spending in absolute terms is about the same as ours. A big difference is in the composition of spending. Most American R&D seeks incremental improvements in existing products—an upgraded laundry detergent or a less salty can of soup. China’s R&D, as the Pentagon explained in its 2019 assessment of China’s military capabilities, concentrates on dual-use—civilian and military—technologies. In critical areas, China spends much more than we do. Hudson Institute analyst Arthur Herman wrote in the Wall Street Journal in 2019:

In 2017, [China’s] national government announced it wanted to make the country and its industries world leaders in AI technologies by 2030. The government’s latest venture capital fund is expected to invest more than $30 billion in AI and related technologies within state-owned firms, and that fund joins even larger state-funded venture capital funds. One Chinese state alone has said it will devote $5 billion to developing AI technologies and businesses. The city of Beijing has committed $2 billion to developing an AI-focused industrial park. A major port, Tianjin, plans to invest $16 billion in its local AI industry….

U.S. investment plans, mostly in the defense industry, are dwarfed by the Chinese effort. DARPA, the Defense Department’s research arm, has sponsored AI research and competitions for many years, and has a $2 billion fund called “AI Next” to help develop the next wave of AI technologies in universities and companies. It’s not yet clear how much real progress its efforts have made.

Some analysts claim China’s economy will suffer a debilitating debt crisis. But the numbers don’t support this view. According to the Bank for International Settlements, China and America have about the same debt burden. Total credit to government, households, and nonfinancial corporations stands at 261% of GDP in China and 249% of GDP in the United States. The big difference lies in who owes the debt. Central government debt is

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about half of GDP in China, but about 100% of GDP in the United States. By contrast, private corporate debt is only about 75% of GDP in the U.S. compared to about 150% of GDP in China.

China’s financial system has many problems, to be sure. It is overly dependent on giant state banks that are accustomed to handing out loans to state-owned companies without asking questions. This encourages inefficiency and corruption. The Chinese authorities allow private companies to fail rather than encourage banks to paper over their problems. Seventeen billion dollars of Chinese corporate bonds defaulted during the first 11 months of 2019, a small number compared to the overall $4.4 trillion onshore corporate bond market.

Most Chinese corporate debt, though, funded infrastructure which, for the most part, can support the debt burden. China’s way of funding infrastructure spending explains most of the difference in debt concentration. In the United States, federal, state, and local governments fund infrastructure spending out of tax revenues or borrowing; in China, state-owned companies borrow from state-owned banks to fund infrastructure.

In a 2017 study for Asia Times I calculated that two-thirds of the net debt owed by non-financial companies in China’s benchmark equity index, the Shenzhen 300, was owed by only 22 companies. Almost all are involved in basic infrastructure (energy, communications infrastructure, shipping, airlines, or metals). This Chinese corporate indebtedness should be viewed as “public works” investment by the Chinese sovereign.

After borrowing roughly the same amount relative to the size of their respective economies, what did China and the United States get in return? America’s national debt rose above $20 trillion, not counting an estimated $46 trillion more in unfunded Social Security and Medicare liabilities. We spent most of this money on transfer payments. China used its debt to move 550 million people from countryside to city and to build the world’s newest and biggest infrastructure.

No Quick Fix

We use the word “empire” to describe China, evoking memories of military conquest and colonial occupation. But China is an entirely different entity: it aims for assimilation and indirect control rather than imperial rule. It avoids the imperial overreach of foreign military commitments and seeks to lock in its influence through dominance in trade and technology.

There is no easy way for America to respond to China, no quick fix, no shortcut. The world has seen nothing like China’s global breakout. It will transform the lives of every inhabitant of this planet, including Americans. The Russian revolutionary Leon Trotsky said (apocryphally) that you may not be interested in war, but war is interested in you. The same is true of China.

After World War II, Americans got paid simply for being Americans. The whole world had to come to us. We had the only deep capital markets, the only venture capitalists, the only national defense establishment able to put massive resources behind basic R&D, and the only skilled workforce ready to turn innovations into products. We invented every component of the digital age: semiconductors, displays, sensors, lasers, networks, and the internet itself. American companies enjoyed natural monopolies in dozens of fields. Our goods and services sold at a premium. The U.S. dollar was king.

When I lived in Germany during the first Reagan Administration, American soldiers on German bases bought BMWs on Army pay.

In 1960 America produced 40% of the world’s GDP. Now it produces 24%. Even more important is the decline of America’s share of high-tech industrial production: according to the World Bank, it fell from 18% in 1999 to just 7% in 2014, while China’s rose from 3% to 26%. America’s commitment to high-tech manufacturing collapsed with the tech bubble of 2000, never to recover. By no coincidence, the income of U.S. households barely grew during the next 20 years.

China’s challenge is formidable. We are competing with 1.4 billion intelligent and industrious people. Chinese schoolchildren turn up at 7:30 a.m. and leave at 5:00 p.m. Ten million Chinese teenagers take the college entrance exams each year and prepare 12 hours a day for two years to gain acceptance at a good university. The Asian work ethic explains why 28% of students at America’s Ivy League colleges are Asians, although Asians comprise just 5.6% of the U.S. population. We have educated a world-class engineering faculty for Chinese universities, the best of which are at par with the best American universities.

But we are well past the point where a one-to-one comparison of Chinese and American technical capacity can explain the strategic balance. China has recruited scores of thousands of the best Western scientists and technicians. Huawei has created a business model unique in Chinese history, with 50,000 foreign employees and research centers in two dozen Western countries. It is not a Chinese but an imperial company, a sort of technologically-driven horde that produces a snowball effect. As it grows, it crushes the competition and absorbs their talent.

Baghdad’s fall to the Mongols in 1258 offers an object lesson. The city of a million people sheltered behind 18-foot walls, and the Abbasid Caliph Al-Mustasim rejected Mongol demands for tribute. The Mongols were lightly armed horsemen, the Abbasids reasoned; what could they do against the 18-foot-thick walls of Baghdad? But Mongol chieftain Hulagu Khan brought with him 1,000 Chinese artillery experts, and it took them just three weeks to breach the walls, after which the Mongols made a giant pyramid of the heads of Baghdad’s inhabitants. Today’s Chinese are not the Mongols, to be sure, but the analogy holds: the Chinese have acquired the technical means from the West to ruin us. China’s critics complain it has stolen Western technology. Far more dangerous is the fact that China has learned to assimilate the West’s best talent.

Can America remain the world’s most powerful, productive, and innovative country? We have faced this challenge before—during World War II, when the Arsenal of Democracy overwhelmed the Axis; during the Space Race, when we overcame an early Russian lead to land men on the moon; and during the Reagan Administration, when the digital revolution leapfrogged Russia’s illusory advantages in military technology. We require a national effort on the scale of John F. Kennedy’s Moonshot and Reagan’s Strategic Defense Initiative to restore America’s decisive edge in high-tech manufacturing and military applications. If we don’t—if China surpasses the United States—we will fade into second-rate status, much like Britain in the 20th century. We will be poorer, weaker, and less secure. The choice is ours, at least for a while.

David P. Goldman is a columnist for the Asia Times and a principal of Asia Times Holdings. This essay is adapted from his forthcoming book, You Will Be Assimilated: China’s Plan to Sino-Form the World (Bombardier Books).
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