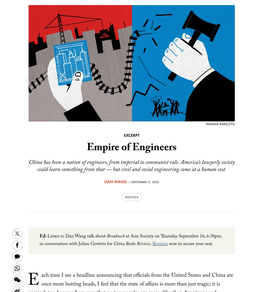

DAVIDA BARZILAI

EXCERPT

Empire of Engineers

China has been a nation of engineers, from imperial to communist rule. America's lawyerly society could learn something from that — but civil and social engineering come at a human cost.

DAN WANG • SEPTEMBER 15, 2021

POLITICS

Ed: Listen to Dan Wang talk about *Breakneck* at Asia Society on Thursday September 16, 6:30pm, in conversation with Julian Gewirtz for China Books Review. Register now to secure your seat.

Each time I see a headline announcing that officials from the United States and China are once more hurling heads, I feel that the state of affairs is more than just tense it is comical, too, because I am sure that no two peoples are more alike than Americans and Chinese.

A strain of materialism, often crass, runs through both countries, sometimes producing veneration of successful entrepreneurs, sometimes creating displays of extraordinary tastelessness, overall contributing to a spirit of vigorous competition. Chinese and Americans are pragmatic. They have a get-it-done attitude that occasionally produces hurried work. Both countries are full of hustlers peddling shortcuts, especially to health and to wealth. Their peoples have an appreciation for the technological sublime: the awe of grand projects pushing physical limits. American and Chinese elites are often uneasy with the political views of the broader populace. But masses and elites are united in the faith that theirs is a uniquely powerful nation that ought to throw its weight around if smaller countries don't get in line.

It is almost uncanny how much the United States and China resemble each other. It was no accident that the two countries established, for a few decades, an economic partnership that worked tremendously well for American consumers and Chinese workers. But on a political level, these two systems are a study in contrasts. While the United States reflects the virtues of pluralism and protection of individuals, China reveals the advantages and perils that come from moving quickly to achieve rapid physical improvements.

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Over the past four decades, China has grown richer, more technologically capable and more diplomatically assertive abroad. China learned so well from the United States that it started to best America at its own game: capitalism, industry and harnessing its people's restless ambitions. If you want to appreciate what Detroit felt like at its peak, it's probably better to experience that in Shenzhen than anywhere in the United States.

Americans need to love the great opportunity that China represents. Nearly a century ago, they were wartime allies, with ties cemented by cultural connections and business relationships. Today, natural amity is being crowded out by mutual mistrust. Beijing and Washington are competing with each other economically, technologically and diplomatically, creating a pall on those of us connected to both countries. We are now in an era where the two countries regard each other with suspicion and often animosity. Like China, the United States is able to move fast and break people, dealing tremendous brutality at home and abroad when it feels threatened. A paramount question of our times is whether hostility between China and the United States can stay at a manageable tension. Because if it boils over, they will devastate not only each other but also the world.

The best hedge I know against heightening tensions between the two superpowers is mutual curiosity. The more informed Americans are about Chinese, and vice versa, the more likely we are to stay out of trouble. The starkest contrast between the two countries is the competition that will define the 21st century: an American elite, made up of mostly lawyers, excelling at obstruction, versus a Chinese technocratic class, made up of mostly engineers, that excels at construction. It's time for a new lens to understand the two superpowers: China is an engineering state, building big at breakneck speed, in contrast to the United States' lawyerly society, blocking everything it can, good and bad.

Looking at these two countries, I came to realize the inadequacy of 20th-century labels like capitalist, socialist or, worst of all, neoliberal. They are no longer up to the task of helping us understand the world, if they ever were. Capitalist America intrudes upon the free market with a dense program of regulation and taxation while providing substantial (albeit imperfect) redistributive policies. Socialist China detains union organizers, levies light taxes and provides a threadbare social safety net. The greatest trick that the Chinese Communist Party ever pulled off is masquerading as leftist. While Xi Jinping and the rest of the Politburo remain much Marxist parties, the state is enacting a right-wing agenda that Western conservatives would salivate over: administering limited welfare, erecting enormous barriers to immigration and enforcing traditional gender roles.

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Engineers have quite literally ruled modern China. As a corrective to the mayhem of the Mao years, Deng Xiaoping promoted engineers to the top ranks of China's government throughout the 1980s and 1990s. By 2002, all nine members of the Politburo Standing Committee — the apex of the Party — had trained as engineers. General Secretary Hu Jintao studied hydraulic engineering and spent a decade building dams. His eight other colleagues could have run a Soviet heavy-industry conglomerate with majors in electron-tube engineering and thermal engineering, from schools like the Beijing Steel and Iron Institute and the Harbin Institute of Technology, and work experience at the First Machine-Building Ministry and the Shanghai Municipal Party Committee.

Xi Jinping studied chemical engineering at Tsinghua, China's top science university. For his third term as the Communist Party's general secretary starting in 2022, Xi filled the Politburo with executives from the country's aerospace and weapons ministries. In the United States, it would be as if the CEO of Boeing became the governor of Alaska, the chief of Lockheed Martin became the secretary of energy, and the head of NASA was governor of a state as large as Georgia. China's ruling elites have practical experience managing megaprojects, suggesting that China is doubling down on engineers — and prioritizing defense — more than ever.

What do engineers like to do? Build. Since ancient times, the engineers have tried to tame the mighty rivers that sweep away not only farmland but also imperial reigns. In modern times, new public works — roads, bridges, tunnels, dams, power plants, entire new cities — are the engineering state's solution to any number of quandaries. Since 1980, after Deng's reforms began, China has built an expanse of highways equal to twice the length of the US system, a high-speed rail network 20 times more extensive than Japan's and almost as much solar and wind power capacity as the rest of the world put together. It's not only the government that is fixated on production; the corporate sector is made up of overactive producers too. A rough rule of thumb is that China produces one-third to one-half of nearly every manufactured product, whether that is structural steel, container ships, solar photovoltaic panels or anything else.

When Chinese point to new cities that shimmer at night with dense displays or metropolises connected to each other by a glittering high-speed rail network, their pride is real. Call it propaganda of the dead, but one way to impress a billion-plus people is to pour a lot of concrete.

China's leaders aren't only civil or electrical engineers. They are, fundamentally, social engineers. Emperors didn't hesitate to entirely restructure a person's relationship to the land, ordering mass migration into newly-opened territories and conscripting the people to build great walls or grand canals. Modern rulers are here, too, for more ambitious than the emperors of the past. The Soviet Union inspired many of Beijing's leaders with a love of heavy industry and an enthusiasm to become engineers of the soul — a phrase favored by Joseph Stalin and repeated by Xi Jinping — hearing China's population into modernity and then some.

Modern China has many tools of social control. Within living memory, most Chinese residents worked inside a danwei, or work unit, which governed one's access to essentials like rice, meat, cooking oil and a bicycle. Many people still live under the strictures of the hukou, or household registration, an aim of which is to prevent rural folks from establishing themselves in cities by restricting education and health care benefits to their hometowns. Controls are far worse for ethnoreligious minorities: Tibetans are totally prohibited from worshipping the Dalai Lama and perhaps over a million Uighurs have spent time in detention camps that attempt to inculcate Chinese values into their Muslim faith.

The engineering state can be awfully literal-minded. Sometimes, it feels like China's leadership is made up entirely of hydraulic engineers, who view the economy and society as liquid flows, as if all human activity — from mass production to reproduction — can be directed, restricted, increased or blocked with the same ease as turning a series of valves.

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Can an government be too efficient? Six years in China taught me that the answer is yes, when it is unbounded by citizen input. There are many self-limiting aspects of a system that makes snap decisions with no little regard for people. There are good things that the engineering state does: running functional cities, building up its manufacturing base and spreading material benefits pretty widely throughout society. But I also lived through things that no other state would have attempted, like holding on to a zero-Covid strategy until it drove the country mad. The fundamental tenet of the engineering state is to look at people as aggregates, not individuals. The Communist Party envisions itself as a grand master, coordinating settled actors across state and society, able to launch strategic maneuvers beyond the comprehension of its citizens. Its philosophy is to maximize the discretion of the state and minimize the rights of individuals.

Engineers often treat social issues as math exercises. Does the country have too many people? Beijing's solution was to prohibit families from birthing more than one child through mass sterilization and abortion campaigns, at the central government ordered in 1980. Is the novel coronavirus spreading too quickly? Build new hospitals at breathtaking speed, yes, but also confine people to their homes, as Wuhan, Xi'an and Shanghai did to millions of people over weeks. There is no confusion about the purpose of zero-Covid or the one-child policy: The number is right there in the name.

China's economy isn't immune to engineering either. When Beijing grew uncomfortable with the debt levels of real estate developers in 2021, the state forced so many of them into distress that it triggered a prolonged slump in homebuyer confidence. Around the same time, Xi hurled a series of regulatory thunderbolts at China's high-flying tech companies, including Didi, the country's largest ride-hailing company, and Ant Financial, the payments company owned by Jack Ma. China's best-known entrepreneur. Chinese tech founders (and their investors) were astonished to discover that Xi Jinping could erase a trillion dollars from corporate valuations over the course of just a few months. The leadership thought it was straightforward to reorient the nation's tech priorities away from consumer platforms and toward science-based industries, like semiconductors and aviation, that serve the nation's strategic needs. Beijing took years to appreciate how its actions had scared the daylights out of entrepreneurs and investors.

When you travel around China, it's staggering to see how much the engineering approach has accomplished over the past four decades. Then there's the part you can't see. As impressive as China's railways and bridges may be, they carry enormous levels of debt that drag down broader growth. Manufacturers produce so many goods that China's trade partners are now grumbling for protection. The social-engineering project known as the one-child policy has accelerated the country's demographic decline. And China's economy would be in better shape if Beijing hadn't triggered an implosion of its property sector, smothering many of its most dynamic companies and persisted in trying to push out the consumer.

Well-to-do professionals who thought themselves secure in their jobs in finance or consumer internet faced a rude shock when Xi's displeasure with these sectors caused tipping job losses. No US president has so much ability to overturn the lives of the rich. By contrast, in China, many pillars of society are liable to blow over when winds from Beijing shift direction, contributing to a sense of precarity among even the country's elites. Since China doesn't have many legal protections, not even its rich are well protected.

Engineers go hard in one direction, and if they perceive something isn't working, they switch with no loss of speed toward another. They don't suffer criticism from humanist sniffers. Change in China can be so dramatic because so few voices are part of the political process. To a first approximation, the 24 men who make up the Political Bureau (the highest echelon of the Communist Party, usually shortened to Politburo) are the only people permitted to do politics. Once they've settled questions of strategy, the only remaining task is for the bureaucracy to sort out the details. But when it makes mistakes, it can drag nearly the entire population into crisis.

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I like to imagine how much better the world would be if both superpowers could adopt a few of the pathologies of the other. I don't set much danger that Americans could wake up one day with a government that effectively steamrolls every opposition to building big projects, and I don't expect Chinese will encounter a government at last willing to learn them alone. Rather, I hope that China learns to value pluralism while embracing substantive legal protections for individuals, and the United States recovers the capability to build for its people.

It is hard to see how China could move away from engineers. The emperors practiced absolutism a millennium before any European monarchs whiffed the idea. China's civil society has long been weak, with strong family clans, but not made up of the sorts of religious organizations and military aristocracy that produced political contestation in Europe. And ever since the introduction of the imperial examinations in the sixth century by the Sui dynasty, would be intellectuals have mostly conformed to studying a curriculum set by the emperor. One reason that China lacks a liberal tradition — focused on protection of individual liberties — is that court intellectuals tended not to develop philosophies based on restraining the emperor or his bureaucracy.

China needs lawyers. Or, to be more precise, the ability for people to decline the state's designs on their bodies, their speech and their minds.

The country doesn't lack regulations or statutes. Xi provides everything for his friends; for his enemies, he has the law. Since he made it a signature priority to impose "rule by law," the country has drowned in laws and regulations. That doesn't mean rule of law as the West might understand it. Xi has rejected the idea of constitutionalism, and the president of the Supreme People's Court has denounced the idea of constitutional democracy as a "false Western ideal." China lacks a real commitment to respecting individual rights. The state allows only limited scope for citizens to challenge government actions, while the Communist Party is off-limits from lawsuits. The judicial system doesn't always publish the records of a case and regardless has plenty of discretion to make legal challenges go in way or go away.

How might change come? Perhaps through ordinary acts of resistance. China's leaders have for millennia tried to impose greater controls on the people. And the people have developed their own strategies for dealing with this control. Though the state wants to see society as an engineering exercise, the reality of China — immediately apparent to those of us who have spent any time there — is that the country is messy. Daily life in China is far more disorderly than the images projected by state media, in which every village is immaculate and where everyone sits with a straight back as they listen to Xi's pronouncements.

Neither is the Communist Party staffed by a far-planning technocracy; nor is it able to squeeze as hard as it wants to achieve national security. People find ways to adapt around the most onerous demands of the engineers. They wield weapons of the weak. When folks see a flurry of senseless rules from the government, they might react with foot-dragging, petty noncompliance, feigned ignorance and arguing back. The system for negotiability is one reason that people have been able to accommodate themselves to engineers.

It would be a better future if the Communist Party could learn some restraint and put a higher value on the individual. Spending time with young people who have "lied" [JR, slang for emigrated] is a good reminder that the Politburo isn't representative of the country. What I see in them, as well as among other Chinese people who do their best to deal with the engineering state, is a steady effort to hold one's own against overwhelming odds. It is a hope that the Communist Party might one day let its people flourish by leaving them alone. ❖

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