

On China's Engineering Mindset

Book review of *Breakneck : China's Quest to Engineer the Future* by Dan Wang

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There has been a lot of talk in US domestic politics lately about the need to reshore manufacturing capacity - Trump's tariffs and trade wars are but a symptom of this. After three decades of American companies outsourcing the mass production of low-quality goods and its adverse environmental impacts to China, there is an increasing realisation among the US strategic community that this may have hollowed out the US's manufacturing base, while helping nurture that of its adversary.

China is no longer the producer of cheap, copycat products it once was; in fact, it has risen up the value chain and emerged as a technological powerhouse. The past decade has also seen an aggressive, irredentist international posturing from a rising China, threatening the US's position, and furthering insecurities that – if ever there was a protracted military confrontation between the two nations, either directly or over Taiwan – China's dense factory networks, talent pool, and technological capabilities, alongside the State's ability to mobilise vast amounts of institutional resources, would not bode well for US national interests, given a weakened US defence-industrial base, (Jones, 2023).

Dan Wang's *Breakneck* voices these anxieties, and makes the case for American society to look inward. "The United States has become distinctly unambitious", he writes, pointing to the US's inability to produce at scale, evidenced for instance in an undersupply of public housing, delayed infrastructure projects, and outdated power grids. And yet, he asserts that "no two peoples are more alike than Americans and Chinese". So what explains the two nations' differing abilities to deliver on outcomes?

The big idea in *Breakneck* is that America is a "lawyerly society" as compared to China's "engineering state". American elites are lawyers (as opposed to China's technocratic leadership), and American society is focused on exquisite processes that obstruct progress. At the same time, China builds big and prioritises outcomes.

However, Wang does not push and test the limits of these labels sufficiently in the book. In fact, the definitions of what constitutes "lawyerly" and "engineering" are not adequately established. Beyond the broad strokes, the book does not examine the American economic developmental path or the multiple causes of its purported deficiencies, shedding light on them only in contrast to the

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Chinese model. The book presents its grand thesis without a rigorous foundation in data or macroeconomic principles.

Ultimately, Wang's success is in his lucid, lived experience of the China model. He intersperses his six years of travel through China's cities and provinces with personal anecdotes, as well as official and unofficial information. By stitching the observed and experienced with the analytical and insightful, and by continuously zooming in and out between the human element, history, and politics of the places he visits, Wang paints a compelling perspective on the Chinese State's strengths, limitations and quirks. And he pulls this off with beautiful writing. There is a rhythm and cadence to his words and carefully crafted sentences. He manages to be interesting without becoming self-indulgent.

Wang's characterisation of China's engineering state is not only its propensity for megaprojects or the number of engineers in the Politburo's standing committee. It's also the State's inclination for social engineering with detrimental effects, as detailed in the chapters on the one-child policy or the zero-COVID policy. These are, by themselves, excellent subjects for discussion; Wang uses them to contend that only an engineering state would treat reproduction as a math problem, something that can be "restricted, directed and controlled", or go to the lengths it did to achieve, literally as the name of the policy states, zero COVID.

Inherent to this view is the State's assumed role of a grand master capable of executing a constructed plan, in which predictable outcomes can be delivered by changing a few input and intermediate variables, and objectives achieved through top-down policy, a vast bureaucracy, and little regard for individual rights.

Wang traces the imaginary lives of two persons – born respectively in 1949 and 1959 China – through key events such as the Cultural Revolution, the rollout of the one-child policy, and the economic reforms. These were all a product of governmental action, and drive home the point that just ten years of change in the birth year would yield vastly different life experiences – an outcome he presents as a classic peculiarity of an engineering state.

Wang does not paint a rosy picture of this state, and is far from being in awe of it. He lays bare, quite bluntly, a stark diagnosis. "The only thing scarier than China's problems are Beijing's solutions", he writes. The vast inefficiencies and waste in public spending, the brutal competition in the private sector, the overcapacity and dumping of Chinese goods in export markets, and the human costs of state policy are all presented, some in greater detail than others.

The lesson in China's breakneck growth, he writes, is that "a country can grow despite institutional weaknesses when it trains engineers". He compares this with the US's "democracy by lawsuit" model. He highlights *The Power Broker*, a biography of New York urban planner and politician Robert Moses, as an example of political corruption and, eventually, American discomfort with large projects. Briefly, Wang also laments America's hyperfinancialisation for prioritising short-term shareholder gains over long-term national interests.

However, a few questions emerge.

Firstly, is it really an engineering mindset that best encapsulates the Chinese way of getting things done, or could it be explained better by other factors, such as the Chinese State's unchecked concentration of power and the Leninist model of controlling the commanding heights of an economy? Additionally, China's financial repression combined with a supply-side focus, and its political incentive structure with top-down direction and local government action are uniquely potent. Perhaps the latter combination is a better framing, stripped of Wang's penchant for storytelling and big-picture metaphors.

Secondly, as the geopolitical winds have turned and China's reliability as a supplier of choice is reducing, the case for the US to reinvest in baseline industrial capabilities – not just coming up with breakthroughs in technology but also having the process knowledge and networks to scale – is clear. What is not self-evident is whether the US's shift from manufacturing to services is the natural outcome of the country's economic path and developmental stage.

China is bound by its investment-driven model to keep building to spur its GDP, but there is also now an acknowledgement by the Communist Party of China that the model may not be sustainable, and that more efficient investments alongside increasing domestic demand is necessary, even if implementation in the face of ideological opposition is likely to be very difficult (China Briefing, 2025). This is not the same for the US, which does not have much to gain by building bridges that go nowhere and highways to heaven.

Finally, Wang is clear that China would never be able to outcompete the US. Living in China exposed him to the country's self-limiting features, he writes, and these sharply contrast with American values of pluralism and emphasis on individual rights. However, the same institutional strength that the US possesses, the checks and balances the system imposes – which are the reasons for slower decision-making – avert the blunders some Chinese policies have made.

Wang's lessons for China drawn from the US fall back into platitudes, and are likely to fall on deaf ears - "It would be a better future if the Communist Party could learn some restraint and put a higher value on the individual". As for the US, a poignant point Wang makes is that, like China, the US should embrace the label of a "developing" nation instead of the status of a fully-arrived, end state with little scope for physical dynamism or nimbleness to change and reform. While the book makes a persuasive case for the popularly-expressed sentiment that US manufacturing needs to be propped up, it only offers a jibe at lawyers to get out of the way, and no policy recommendations or implementable solutions to do so.

Despite these shortcomings, *Breakneck* is valuable for its accessible insight into the state of contemporary Chinese society and politics. It is the product of a gifted writer's synthesis of his family history (the last chapter on this was a surprise treat) and personal travels with a broader understanding that echoes recent trends in geopolitics. It is a highly relevant and recommended read for anyone interested in China, its systemic oddities and global competition today.

"Breakneck: China's Quest to Engineer the Future" by Dan Wang, Penguin, 2025, Pages 264.

References

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