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The Two Towers: China, the U.S., and the Structural Characteristics of Competitive Advantage in AI Innovation

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We have been asked to consider one statement and two questions. These provide a useful mechanism for organizing my brief excursion into the complexities of Chinese political legalities related to AI. To that end I will draw on my recent research on China's political economy, AI and semiotics; with the big picture object of spotlighting a symbiotic relationship between law and innovation in China, and by comparison in the U.S.

My hope is to emphasize two points. *The first* is to understand the almost inevitable connection between the Chinese political-economic system, its evolving forms and applications of Marxist-Leninism in the New Era of historical development, and its manifestation in AI policies. *The second* is to understand the inevitable reaction to that system within an equally evolving liberal democratic political-economic system(s) in which the ongoing battles over the relationship between public administrative supervision in compliance oriented regimes with markets driven innovation within publicly framed private spaces has heated up. While my focus is on the Chinese system, it really cannot be understood from the outside except from a position of consciousness of the transformations of the *worldview* (the ways of ordering, understanding and giving meaning that shapes reality) of the outside (liberal democratic) observer.

In the process I hope to provide a glimpse into the semiotics of knowing and judging, of evaluating things, through the distillation of meaning from signs and symbols, like the relative power of AI innovation and management as a function of public power, is shaped by the way a society invests signs and symbols (for example the Chinese AI regulatory complex) with a meaning that can make sense only when judged against the ordering premises and meaning with which the observer imposes meaning on the world. What emerges is an irony that is even more ironic because it is un-conscious, that our construction of AI, including its regulatory and instrumental operative characteristics, is merely a reflection of the larger ideologies that shape the meaning and desires and operating systems of the political cultures within which it resides. They each, in effect, reflect the other and in the process of interacting both shape and change the other (in semiotics the process of dialectical mimesis in the regulatory field).

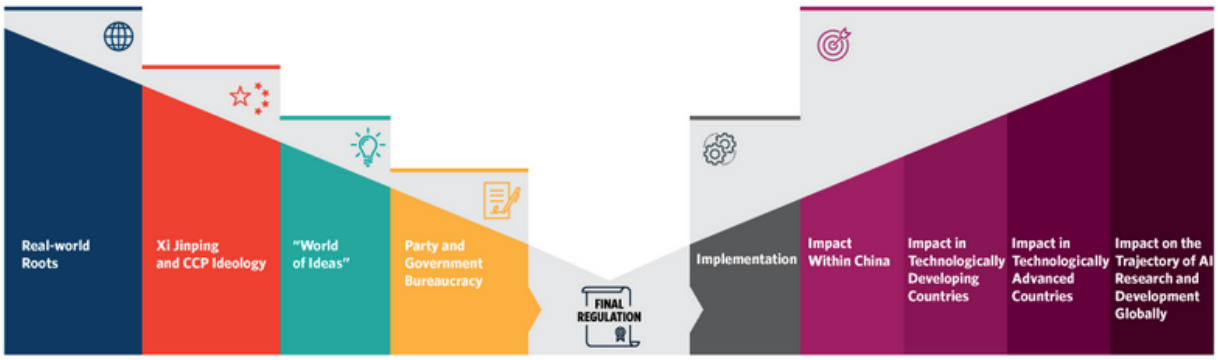
Proposition 1: China exercises unitary control over its AI industry, research, deployment and regulation of AI.

China does not exercise unitary control. Chinese Marxist-Leninist theory posits the political constitution of the nation-state exercised under the leadership and guidance of the vanguard of leading forces constituted as the Communist Party, responsible for (eventually) moving the nation toward the establishment of a communist society (until then the nation must follow the socialist path toward the communist goals). To that end a closely aligned administrative apparatus is established (the structures of the state), and people's democratic dictatorship is operationalized through the People's Congress system and the mechanisms of "whole process people's

democracy". The core premise for economic activity is that the state (under the leadership of the CPC) owns and controls productive forces. These are state assets that are to be devoted to the fundamental political goals of the state. But the actual exercise of authority is dispersed throughout the governing apparatus. The tone is set at the top though national legislation. But legislation is usually crafted as a large space within which administrative discretion may be exercised (under the guidance of the CPC in specific cases). The large state organs are meant to serve a coordinating, assessment, and compliance function (giving direction to administrative action and avoiding abuse). Markets and private innovation are important elements, but only to the extent they serve public objectives.

Figure 1. The "Policy Funnel" of China's AI Governance

Major governance initiatives tend to proceed from left to right through this funnel, though often not in a linear fashion.



China "policy funnel" for AI from Matt Sheehan, "China's AI Regulations and How They Get Made" 10 July 2023

Control, then, must be understood in this sense—that AI is a state asset and an important productive force, that it is central to the overall policy of socialist modernization; and that its constitution, development and use must be guided to meet the public policy objectives set by the vanguard and consistent with ideological premises. For AI, the regulatory model can be characterized as *vertical, iterative and objectives based*, in contradistinction to the impulse within liberal democracies for principles-based comprehensive regulation that includes a measure of compliance and markets managing features. It is vertical in the sense that China has avoided comprehensive legislation in favor of quite specifically targeted regulation. It is iterative in the sense that as flaws are discovered in the regulatory framework they are corrected and then that knowledge is pushed forward to the next subject of regulation. To date Chinese regulators have issued rules relating to algorithmic recommendations (2022); the management of deep synthesis in internet information services (January 2023); the management of generative AI services (provisional measures July 2023); and measures for the ethical review of science and technology activities (May 2023). Ultimately this regulatory dialectic will produce a comprehensive measure; the intention was announced in July 2023 with the object to create a draft Artificial Intelligence Law (人工智能法).

Management and coordination of the regulatory complex is vested, in the first instance on a set of deeply related organs. The administrative organ, the Cyberspace Administration of China (CAC) emerged out of the Chinese State Council General Office and its CPC counterpart—the CPC cybersecurity leading group, both established in 2014. As Jamie Horsely has described it, CAC is a merged state-party entity which exercises the authority of an administrative agency in part, and undertakes the leadership and guidance role of the CPC in part. It was initially connected to the state propaganda system but has emerged after reforms in 2018 as a leading force for AI regulation, policy and coordination no longer officially connected to the State Council.

Objectives based regulation is undertaken by two distinct routes. The first is undertaken through the leadership/guidance of CPC organs sensitive to the macro-ideology of New Era Marxist-Leninism and to its micro-expression in contemporary policy. These tend to "see" AI as an important instrument for socialist modernization in a period of national rejuvenation and movement toward the realization of the "Chinese Dream" (Zhongguo meng) (measured against pragmatic and concrete goals—per-capita GDP; military process; and social welfare for a solidarity patriotic society). The second is undertaken through the application the complex of Chinese legality that may also affect AI in its conception, application, and development. These include the foreign espionage and nationals security laws, the laws protecting data and data integrity. Most interesting, perhaps, might be the CACs 3 August 2023 draft measures on "Personal Information Compliance Audit Management Measures", which specifies that companies that process personal information undergo regular compliance audits, and annual audits for companies processing the personal information of over one million people. Compliance testing is meant to be comprehensive.

Proposition 2: Does this combination of legal and technical innovation by China and other nations give them a competitive advantage strategically over the US?

The answer to this question depends on how the question is understood. On the one hand, if the question focuses on the strategic *public policy objectives of the state*, then the answer must be yes, there is a competitive advantage. That follows from the premise that a state that can direct all of its productive forces toward specific goals, for which administrative supervision and markets can serve as instruments, *is invariably at a competitive advantage with respect to meeting those goals*, than states in which innovation is driven more from the bottom and the non-state sector. On the other hand, states whose political-economic model eschews state directed economic activity, and which has fewer objective goals (other than the embedding of socio-cultural and political principles in social relations) would invariably have a strategic advantage. The result follows precisely because its productive forces are *free to innovate in ways that may not be efficiently determined by state organs* or politically authoritative social leading forces.

And here, again, is the fundamental problem of meaning making within a semiotic discursive environment. The answer to the question depends on the underlying value of the meaning conveyed: if the unstated premise is that states enhance value more when they control productive forces toward specific ends (which they determine), then clearly the Chinese system is inherently better able to bend innovation in ways that would be more efficient than in the U.S. If the underlying premise is that the role of the state is NOT to set social objectives (beyond meta objectives like "social justice" or non-discrimination, however these may be understood as political matters) but to create an environment for innovation in ways that must be beyond the control of the political caste, then the U.S. has a quite strong strategic advantage in innovation—just not measurable against state aims or desire. The answer, then, depends on the ideological and values based starting point.

The question, then, might be reframed in this way: whether or to what extent can the strength of one system be used strategically against the other? *That is not a question of competitive advantage but of competitive vulnerability*—and it calls to mind not a space race but World War Z. At least in theory, the great strength of the Chinese system is its governmentalization and centralization of social objectives aligned with public policy so that society speaks with one voice. The greatest strength of liberal democracy is the diffusion of leadership through the market and stakeholder factions grouped around solidarity to a set of common norms. China's vulnerability is exposed by market driven innovation in AI. US vulnerability is exposed by state directed AI innovation protected against foreign hostile forces.

Competitive vulnerability refocuses discussion of AI competitive advantage on its an important undertow: control of the data ecosystem, mass and centralized information infrastructure, and techno-security. State directed

innovation is enhanced where the data ecosystem is available for exploitation. That requires either an ability to generate data and also an ability to draw data generated by others. In terms of competition, it also is enhanced by a power to deny data to competitors. All of this speaks to competitive advantage, especially where AI innovation is linked to big data systems. But quantity and control does not necessarily translate into quality. Control of data does not translate into the provision of useful data, or relevant data—garbage in, garbage out applies with great force here. That is not meant to suggest that the property regimes in data in markets economies is necessarily better. It does suggest, however, that the problem of AI innovation is, in some sense, also a problem of the availability of factors necessary for its production, growth and use. Control can as easily facilitate as inhibit innovation, whether it appears in the form of ownership or in the designation of data as a state asset. More importantly. perhaps, it has a high impact on national security and the construction and policing of rules of fairness in economic relations at the state and private levels. Here again, innovation may require the erection of barriers, and it may be shaped by conflicts over the "rules of the road." The consequences for AI innovation can be significant. On the Chinese side it may produce the bifurcations of the dual circulation policy; in the United States, it may enhance the importance of sanctions based regimes designed to protect innovation but at the same time make cross border partnerships practically impossible—except among like-minded allies. So, no competitive advantage but incentives toward common ideology based collectives.

Proposition 3: In the earliest stages of the Age of Artificial Intelligence (AI), does the US find itself in a new kind of space race?

The short answer is yes if one focuses on strengths, but vulnerability analysis suggests that a space race may not be either the better or singular metaphor. The race to space involved a public objective of great importance to which the productive forces of the nation could be deployed through the use of the taxing and spending powers of the state. It was enhanced through the discursive power of the state and its allies to augment a narrative that changed or enhanced the social values calculus among the (voting) population. The question here isn't whether AI will or will not be developed depending on the intervention of the state. Rather, it might be more useful to frame the analysis (and thus the conclusions that follow) along two lines. The first considers whether the *rate of innovation* is higher or lower depending on the rate and quality of state invention. The second considers the *quality of innovation*, that is whether the forms of innovation are compatible with the social and political expectations of a polity—measured as a function of the expectations of its political-economic system. Where the state takes for itself the authority to determine the scope, quality, and rate of innovation as a function of public policy, the quality and rate of innovation must be judged against those goals. Where the state does not take on for itself a dominating role in the trajectories of innovation, then measurement becomes more complicated. It is more complicated still in hybrid cases, where the state seeks innovation in certain areas of public importance (e.g. military, security, smart cities, etc.) but not in others. In these cases measurement may be a function of calculated rates of return, one sort or another.

Thus, the vulnerability of one approach is a function of the strength of the other. And the measures used to assess either goes to strengths and not weakness. At this point something becomes obvious—it is quite difficult to usefully measure the "value", "utility" or "quality" of innovation in AI between systems that are geared to understand those terms in potentially fundamentally different ways, and that measure them against quite different standards. A space race requires a single goal—in that case getting into space, and then getting to the moon in the 1960s. That was easy to measure across systems and indeed served as a useful measure of the capacity of competing systems. In the case of AI, it is not clear that China and the US have the same specific goals—though it is quite clear that, from the perspective of political ideology that such similarity in goals would be nearly impossible.

How then can we judge the race? The first step must be to define the course of the race and its goal lines. The course of the race can be crudely measured by rates of technological advancement (with or without specific

application); or it can be judged against the subset of shared pragmatic goals (military capacity, functional capacity, and the like). The measures do not necessarily go to quality, but rather to objects that may signify quality. These may consist if crude *quantity measures* (like the measure of patent application rates as a sign or stand in for innovation), or *output measures* (tied to pragmatic objectives or impacts). The question that one must confront then, the question on which the issue of comparative measure rests, is not one of innovation, its rates or quality, but rather the utility of those measures for constructing narratives of legitimacy, superiority, and authority, that are vitally useful, not in the measure of AI innovation, but in the control and capture of narratives of authority on which hierarchies of social relations are built. And that takes on back to CAC, and its origins within the propaganda apparatus—the function of AI as both a tool for managing perception (and values) and as the evidence vindicating that perception.

References:

China, Cyberspace Administration of China, "国家互联网信息办公室关于《个人信息保护合规审计管理办法（征求意见稿）》公开征求意见的通知" [Notice of the Cyberspace Administration of China on the public solicitation of opinions on the "Personal Information Protection Compliance Audit Management Measures (Draft for Comments)"] (3 August 2023); available [http://www.cac.gov.cn/2023-08/03/c_1692628348448092.htm].

China, State Council, China's 'New Generation Artificial Intelligence Development Plan' (2017), DigiChina (1 August 2017)translation available [https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/]; original Chinese text: 国务院关于印发　新一代人工智能发展规划的通知 国发〔2017〕35 号； available [https://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm].

China, State Council, 国务院办公厅关于印发 国务院 2023 年度立法工作计划的通知 国办(2023〕18 号 [Notice of the State Council's 2023 Legislative Work Plan, State Council issued [2023] No. 18]; available [https://www.gov.cn/zhengce/content/202306/content_6884925.htm]

Rogier Cremiers (ed), Central Leading Group for Internet Security and Informatization Established , China Copyright and Media (1 March 2014); available [https://chinacopyrightandmedia.wordpress.com/2014/03/01/central-leading-group-for-internet-security-and-informatization-established/].

Elizabeth Economy, *The Third Revolution: Xi Jinping and the New Chinese State* (Oxford University Press, 2018).

Arthur Herman, "How to Beat China in the New Space Race: It's about more than money. The U.S. needs a strategy to harness private innovation," *Wall Street Journal* (11 September 2022); available [https://www.wsj.com/articles/how-to-beat-china-in-the-new-space-race-national-security-strategy-technology-industrial-base-competition-beijing-commercial-sector-blue-origin-innovation-11662903133].

Jamie P. Horsley, "Behind the Facade of China's Cyber Super-Regulator: What we think we know—and what we don't—about the Cyberspace Administration of China, DigiChina (8 August 2022; available [https://digichina.stanford.edu/work/behind-the-facade-of-chinas-cyber-super-regulator/].

Arendse Huld, "China Cybersecurity and Data Protection Regulations – 2023 Recap and 2024 Outlook," China Briefing (22 November 2023); available [https://www.china-briefing.com/news/china-data-protection-regulations-2023-2024/].

Mark MacCarthy, "The US and its allies should engage with China on AI law and policy," Brookings (19 October 2023); available [https://www.brookings.edu/articles/the-us-and-its-allies-should-engage-with-china-on-ai-law-and-policy/].

Matt Sheehan, China's AI Regulations and How They Get Made, Carnegie Endowment for Interational Peace (10 July 2023); available [https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117].

Hui Xu et al., China's New AI Regulations, Latham & Watkins Client Alert Commentary No. 3110 (16 August 2023); available [https://www.lw.com/admin/upload/SiteAttachments/Chinas-New-AI-Regulations.pdf].

Kevin Xu, EU, China, US: Three Different Attitudes Toward AI Regulation, Interconnected (26 July 2023); available [https://interconnect.substack.com/p/eu-china-us-three-different-attitudes]

Zeyi Yang, Four things to know about China's new AI rules in 2024, MIT Technology Review (17 January 2024); available [https://www.technologyreview.com/2024/01/17/1086704/china-ai-regulation-changes-2024/].