Constructing East Asia: Technology, Ideology, and Empire in Japan's Wartime Era, 1931-1945

by Aaron Stephen Moore
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Miriam Kingsberg
University of Colorado Boulder

Aaron Stephen Moore's *Constructing East Asia: Technology, Ideology, and Empire in Japan's Wartime Era, 1931-1945* offers a conceptual history of technology (J. *gijutsu*) during the Fifteen Years' War as a foundation for understanding contemporary Japan's enormous investment in science, planned development, and overseas aid. Rather than imposing his own definition of *gijutsu*, Moore proposes the "technological imaginary" as his object of analysis. Defining this concept as the "ways that different groups invested the term 'technology' with ideological meaning and vision" (3), he particularly focuses on the Marxist and leftist intellectuals, engineers, technocrats, and reform bureaucrats who sculpted Japan's empire in Northeast Asia. Moore argues that the troubling philosophical and material legacies of these groups remain foundational to Japanese impressions of *gijutsu* today, despite generally positive postwar perceptions of technology as a progressive engine of innovation, prosperity, equality, and even democracy. Rooting contemporary perspectives in the "dark valley" of the fascist era, Moore situates his work within a widening current of "transwar" scholarship emphasizing continuity in Japanese society, politics, and the economy across the

traditional chronological breaking point of 1945.

The representation of wartime Japan as "fascist" has long provoked scholars of the modern period. Consonant with current historiographical trends, Moore acknowledges the distinctiveness of the Japanese case but maintains the usefulness of a common label for elements of Italian, German, Soviet, American, British, and French sociopolitical organization in the 1930s and early 1940s. In his definition, fascism constitutes "an ideology and mode of power translated globally into national contexts that combined anti-modern and modern elements for the revolutionary transformation and mobilization of society" (8). Technology, "modernity's most visible product" (3) and a buzzword of the wartime era, offers a particularly useful site for evaluating the impact of expansionism, imperialism, authoritarianism, spiritualism, universalism, and massification, as well as ideas of progress and rationality. While Moore upholds historian Harry Harootunian's representation of fascism as a "'molecular or micropolitical power' throughout everyday life" (9), the technological imaginary in his depiction is strictly superhuman. *Gijutsu* includes solely monumental productions: cities, dams, industrial plants, highways, and the like. New household and individual consumer technologies (such as the sewing machine in Andrew Gordon's recent *Fabricating Consumers*) do not figure within the developmental narrative of a nation mobilizing for war.[1]

Each chapter in Moore's work explores the technological imaginary from the collective standpoint of a different professional or intellectual group. The author begins with Marxists and leftists, who were inspired by the incorporation of science and technology into everyday life in the Soviet Union in the 1920s. Despite the incompatibility of leftist ideologies and state dogmas, the author argues, proponents of both came

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1 Andrew Gordon, *Fabricating Consumers: The Sewing Machine in Modern Japan* (Berkeley, CA: University of California Press, 2011).

to share a surprisingly similar perspective on technology. From a materialist view of *gijutsu* as physical artifacts of capitalist production, Marxists shifted to a more dynamic stance that celebrated economic, social, and cultural processes that organized all aspects of life, mobilized the masses, and "created" East Asia.

Through the work of Aikawa Haruki (real name: Yanami Hisao, 1909-1953), a leading wartime theorist of technology, Moore explores the role of *gijutsu* in plans for imperial Japan's Greater East Asian Co-Prosperity Sphere. As a contributor to various technocratic journals and institutions, Aikawa supported the state's effort to centralize science policy, promote the technical education of society, and establish a "Japanese" engineering tradition independent of Western models and based on colonial resources. In addition to mobilizing the empire for war, technology might serve to overcome the evils and contradictions of capitalism and advance the nation along its prescribed revolutionary path to socialism. Countering common perceptions of technology as "something alienated from human life" (53), Aikawa also wrote extensively on *gijutsu* in culture, especially film (a medium in which he dabbled). Like his contemporary Walter Benjamin of the Frankfurt School, he defended mechanical reproduction as the basis of original art reflecting the mass psyche in the modern age—"new *sake* for a new flask," in his words (54).

In 1936, police arrested Aikawa along with thirty-two alleged communist associates. Despite confessing and renouncing all political activity, he never completed the process of "conversion" (J. *tenkō*) to state orthodoxy. Drafted in the final months of World War II, Aikawa deserted to the USSR. Following the defeat of imperial Japan, he participated in the socialist "reeducation" of co-national prisoners of war in Soviet gulags until his death from illness and exhaustion. The idea of technology, Moore concludes, enabled Aikawa to reconcile his own lifelong belief in socialism with the ultra-nationalism demanded of him by the Japanese state.

Moore's second chapter exposes the technological imaginary from the standpoint of engineers. Miyamoto Takenosuke (1892-1941), an engineer in the Japanese Home Ministry who later served on the Asia Development Board and Cabinet Planning Board, supplied philosophical leadership to the profession as a founding member of the Kōjin Club. This organization, also treated in Hiromi Mizuno's *Science for the Empire* (2009) was established in 1920 with the goal of raising the income and status of engineers in a society where law graduates tended to monopolize power and prestige.[2] The Kōjin Club promoted technology as a force for national progress through rational planning and inclusive development. In the 1930s, Miyamoto set forth the idea of "comprehensive technology" (J. *sōgō gijutsu*) to describe planned civil engineering projects and strategic centralized policymaking on the Asian continent that aspired to "uplift" colonial subjects through efficient social management (in contrast to capitalism, an "imprecise" way of organizing production and distribution). For Miyamoto, comprehensive technology involved state cultivation of natural resources, labor, and heavy industry on the mainland for the mutual prosperity of China and Japan. In commentaries on the imperial government's "Outline for a New Order of Science and Technology" (1941), he insisted on a complementary connection between the Japanese and Chinese economies and the latter's potential and eagerness for development. War, to him, obstructed technological progress by alienating the Chinese people from their Japanese occupiers. As Moore shows, although the engineers' vision of comprehensive technology both depended upon and advanced Japanese imperialism in China, they themselves did not necessarily understand their purpose in these terms.

Moore next examines the intentions and achievements of engineers

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[2] Hiromi Mizuno, *Science for the Empire: Scientific Nationalism in Modern Japan* (Stanford, CA: Stanford University Press, 2010), 19-42.

and technocrats through case studies of specific infrastructural interventions. In Chapter 3, "Constructing the Continent," he explores the conception and implementation of the Liao River Improvement Project in southern Manchuria, the Dadong industrial zone on the Korean side of the Yalu River, and "garden city" planning in Beijing. The fourth chapter takes up two more examples of comprehensive technology under Japanese imperialism: the Sup'ung (Suihō) Dam and the Fengman (Hōman) Dam. Easily the most fascinating and original material in the book, these case studies illuminate the global challenge of water management in the early twentieth century, as well as the significance of the technological imaginary in fascist Japan and its legacy of developmentalism throughout Asia. Built in the context of total war in the late 1930s and early 1940s, the dams claimed a stunning volume of resources, including, in the case of Fengman, half of the annual cement output of Manchukuo. Ranking among the world's largest hydro engineering projects, they were Asia's first multipurpose dams, built to produce cheap and abundant electricity for local industrialization, hold back floodwaters, facilitate river transport, irrigate the fields of Japanese migrant farmers, stabilize the clean water supply, expand fisheries, and even attract tourists. They also functioned as a (literally) concrete justification of the benefits and legitimacy of Japanese power and superiority.

Both dams were located in the borderlands of Manchukuo, where, Moore argues, the shift to a militarized bloc economy led bureaucrats and engineers to articulate a systematic conception of an integrated technological empire. Accordingly, it was in the "puppet state" that technology was given its widest rein in reshaping social, political, and economic life. As scholars such as Louise Young have pointed out, authoritarian politics in Manchukuo enabled Japanese planners to circumvent constraints on innovation in the home islands, including bureaucratic infighting, safeguards of representative government and human rights, and the formulation of science policy by non-scientists.

Moore checks the notion of a "brave new empire" of unfettered possibilities by showing that, even on the continent, engineers never exercised a free hand over their projects. Monumental technologies were not the result of straightforward application of vision to context, but "messy effects" (152) of inexperience, unexpected events, uncooperative populations, clashing and unstable interests, and the implacable challenges of an unfamiliar environment. One engineer memorably likened construction to a "sumo match with nature" (168), acknowledging the uncertainty of outcomes. High modernist planning was never as "durable, systematic, and coherent" (104) as it appeared; rather, its most salient features were ambiguity, contradiction, and contingency. The concealment of these "irrational" realities, it would appear, was also a characteristic of the technological imaginary of wartime Japan.

Environmental engineering in Manchukuo aspired to create a maximally productive and creative utopia, yet the construction process was marked by racism, inequality, exploitation, and violence. Moore's discussion of the treatment of the laborers who built the Sup'ung and Fengman dams spares no details, from the nightly distribution of morphine tablets to Chinese conscripts and prisoners of war forced to shift frozen earth in temperatures as low as minus forty degrees Celsius; to mass death from contagious disease, accidents, suicide, and failed attempts to escape or revolt; to interment in "pits of ten thousand corpses" (C. *wan ren keng*). As one Japanese bureaucrat stated at his trial for war crimes in China in 1954, comprehensive development sought to transform not only the environment, but also workers into "machinic extensions of the Japanese Imperial Army; nonhuman automatons absolutely obedient" (19). Beyond this depiction of abuse and suffering, however, Moore's account of dam-building never quite leaves the realm of the imaginary. Issues including long-term environmental effects, the experiences of users, the training and participation of expert Chinese, and costs and financing are largely unexplored.

Following the discussion of state engineers and technocrats, the fifth (and last) chapter of the book, "Designing the Social Mechanism," focuses on Japan's reform ("renovationist") bureaucrats (J. *kakushin kanryō*). With the support of the Japanese military, this close-knit group of officials incorporated technology into their goal of comprehensive state planning. Corporatist parties, associations, and unions served as critical linkages of a politically, socially, and economically integrated nation and empire. Through these institutions, reform bureaucrats hoped to eliminate the inequalities of laissez-faire capitalism and cultivate self-sufficiency in preparation for total war in the late 1930s. Like many engineers, reform bureaucrats were educated predominantly at Tokyo Imperial University, influenced by Marxism in the 1920s, and attracted to *gijutsu* as a means of increasing their status and influence in Japan, Manchukuo, and beyond.

Building on historian Janis Mimura's *Planning for Empire* (2011), Moore depicts the reform bureaucrats as architects of "techno-fascism": "a fusion of technical rationality, comprehensive planning, and modern values of productivity and efficiency with ethnic nationalism and right-wing ideologies of organicism" (192). Rather than dismissing techno-fascism as a top-down, coercive mode of power, Moore draws attention to its ambitions to restructure society naturally through the reconfiguration of creative processes.[3] The distinguishing feature of the reform bureaucrats, the author argues, was their emphasis on the Japanese "national spirit" (J. *seishin*) as the wellspring of technology, social organization, and life itself. By exploring the infusion of *gijutsu* with a metaphysical dimension, Moore connects the technological imaginary to other utopian projects of the late wartime period, including Pan-Asianism, the quest to "overcome modernity," and the New Order in

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[3] Janis Mimura, *Planning for Empire: Reform Bureaucrats and the Japanese Wartime State* (Ithaca, NY: Cornell University Press, 2011).

East Asia and the Greater East Asia Co-Prosperity Sphere. He further implicates the reform bureaucrats in a vision of material progress at all costs that enabled and even legitimized war crimes, including the notorious "medical" experiments of Dr. Ishii Shirō's Unit 731. Whereas such atrocities served to discredit techno-fascism after Japan's defeat in World War II, the reform bureaucrats' emphasis on technology as a force of creativity, responsibility, and independence survived past 1945. Most famously, Kishi Nobusuke (1896-1987), the architect of Manchukuo's planned economy, continued to encourage large-scale technological projects, managerialism, and a "flying geese" model of economic development in Asia during his tenure as Prime Minister of Japan from 1957 to 1960.

Moore concludes *Constructing East Asia* with an epilogue summarizing the significance of techno-fascism and the legacy of the wartime technological imaginary in Japan after defeat. Far from alienating the Japanese from technology, surrender prompted an immediate reflection on the need for more comprehensive science as the basis of a "healthy cultural nation-state," in the words of one bureaucrat (227). Early postwar initiatives such as the Science and Technology Agency, the Agency of Industrial Science and Technology, and the Comprehensive National Development Plan retained elements of the wartime technological imaginary including statism, the prioritization of big business over the interests of the people, and indifference to ecological devastation. Meanwhile, engineers and bureaucrats stationed in the former empire returned to Japan to spearhead large-scale infrastructural projects at home and overseas through developmental assistance. Today, although the environmental and human costs of dams and other monumental interventions are increasingly apparent, in the uncritical public imagination technology remains "a powerful horizon to mobilize people's hopes and dreams and diffuse socioeconomic discontent" (233).

Given the centrality of transwar continuities to Moore's argument,

the brevity of his remarks on the period after 1945 leaves the reader hungry for a more thorough explanation on ongoing consequences of wartime technological imaginary. In what ways have early twentieth-century views of technology shaped the emergence of an environmental consciousness in postwar Japan? What kind of relationship did the liberated nations of East Asia and Southeast Asia develop with the ideological and material relics of *gijutsu*? How did Japan's postwar technological imaginary come to include not only larger-than-life projects such as dams and cities, but also middle-class consumer products such as air conditioners, washing machines, televisions, and cars? Where can we locate women within the overwhelmingly male-dominated discourse of science and development? How did the shift from "fascism" to "democracy" make the technological imaginary accessible to new contributors such as artists, fiction writers, journalists, business leaders, and ordinary citizens? And finally, can we expect views of *gijutsu* to change in the wake of the Fukushima disaster of 2011? These questions could easily inspire several other books, and Moore is to be thanked for opening up a fascinating line of inquiry in the burgeoning historiography of postwar Japan.