

Making the Pacific, Making Japanese-U.S. Relations: Science and Technology as Historical Agents in the Twentieth Century

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ABSTRACT This special issue of *Pacific Historical Review*, “Making the Pacific, Making Japanese-U.S. Relations: Science and Technology as Historical Agents in the Twentieth Century,” is guest edited by Martin Collins and Teasel Muir-Harmony. The special issue gives prominence to science and technology as sources of agency inextricably bound to the modern project—and thus bound to another expression of the modern, the nation state and its interrelation with other states. In the modern context, scientific and technical knowledge, practices, and things are fundamental to composing more robust historical accounts, including accounts of the nation state. This interpretive frame is vital in understanding the Japan-United States relationship in the twentieth century and the critical role of the Pacific Ocean therein. The special issue includes a preface from Marc S. Rodriguez, this introduction by Martin Collins, and four articles: Daqing Yang on wireless telegraphy, the Pacific Ocean, and spatial practices in early 20th century Japan, Chihyung Jeon on the post-World War II impact of US attitudes on race and culture in allowing Japanese to pilot transpacific commercial aircraft, Teasel Muir-Harmony on the 1970 Osaka World Exposition, US spaceflight displays, and the surprising role of a moon rock in critiquing US conceptions of the modern, and Colin Garvey on the early 1980s competition between the US and Japan in developing artificial intelligence and the different views of the modern each embodied.. **KEYWORDS** science, technology, nation state, modernity, Japan, United States, foreign relations

Beginning in the 1960s, humanities scholars joined to create an efflorescence of methodologies, intellectual perspectives, and subject matters for engaging the past. The lean of this massive (sometimes contentious, sometimes disjointed, often overlapping) enterprise has been to deepen conceptions of what should be included in historical experience and thus how we account for the composition of historical orders and their change. This sustained effort pivots around two core questions: Who and what has agency? And, how does such agency get recognized and brought into relation with other agencies? In this slightly abstract recounting, modernity as a historical and cultural category stands as the essential context—its modes of organizing the world and its inseparability from histories of colonialism and postcolonialism, of race, gender, and power. This process of creating new scholarly tools, thus, served to critique the modern, its modes of operation, and, as a European-centered project, investigate the relationship of the West in its interactions with other peoples and places.

Such genealogy is deeply familiar. But it is worth recapitulating as context for this special issue of *Pacific Historical Review*, especially to help make sense of the conceptual reference points in its title. As the title signals, we give prominence to the historical category of nation states and interstate relations through a focus on Japan and the United States. As such, a critical background is the shifting character of those relations through the twentieth century, with World War II and its aftermath a critical period of reformulation. The article by Daqing Yang examines the prewar relationship, while those by Chihyung Jeon, Teasel Muir-Harmony, and Colin Garvey give special attention to the more recent chronology, detailing the extent and depth of U.S. hegemony in the early postwar years (Jeon) and then its unraveling as Japan becomes a technological and economic geopolitical power (Muir-Harmony and Garvey). In each instance,

conceptions of the modern stand as clear points of reference and the basis for cultural and political choice.

In this frame, we look to offer more entangled accounts of who and what has agency and of how the historical actors presented in the several articles here drew on, confronted, and refashioned modernist categories. The who has agency question is commonplace and in this special issue embraces a range of individuals and institutions from state, business, and military actors, engineers, laboratories, pilots, exhibit designers, to everyday publics. But the *what* has agency question is perhaps less ingrained in methodological practice. As these articles offer, a variety of things—radio transmitters and radio waves, airplanes and human bodies, exhibit displays and a moon rock, and computers and their software—participate as agents, intersecting with and inseparable from human actors and their work.¹ This focus on things, their mobility and their embedded spatial and temporal relations, brings into view the agency of the Pacific Ocean and its geography, as places and as a source of imaginaries.² The Pacific, then, takes on particular and shifting meanings as a succession of things and actors and

¹ A useful overview text on materiality and the agency of things is Tony Bennett and Patrick Joyce, eds., *Material Powers: Cultural Studies, History and the Material Turn* (London; New York: Routledge, 2010). This volume is a representative marker of the synergy among several humanities fields: anthropology, science and technology studies, sociology, and history

² On the Pacific as agent and imaginary see Warwick Anderson, Miranda Johnson, and Barbara Brookes, eds., *Pacific Futures: Past and Present* (Honolulu: University of Hawai'i Press, 2018). For science and technology as critical ground for modern imaginaries see Sheila Jasanoff and Sang-Hyun Kim, eds., *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (Chicago; London: The University of Chicago Press, 2015). A perceptive summary of the spatial as an analytic category is Lauren Benton, "Spatial Histories of Empire," *Itinerario* 30, no. 3 (November 2006): 19–34, <https://doi.org/10.1017/S0165115300013358>.

their interrelations occupy the historical foreground—a framework of agency, which, in turn, becomes a constituent element of the U.S.-Japan relationship.

At the center of such action, this special issue argues, are the practices, modes of knowledge productions, and imaginaries attached to science and technology—a complex inseparable from the modern since the seventeenth century. To emphasize this claim may seem almost archaic. We now are decades into the articulation of disciplinary fields such as the history of science and technology, as well as various stripes of science studies, and their multiple interchanges with fields such as colonial and postcolonial, feminist, and race studies.³ Yet this body of work and its analytic value are still muted in what might one call mainstream history. To take one recent example consider Kenneth Pyle’s *Japan in the American Century*, which draws on Henry Luce’s mid-twentieth-century trope as an organizing motif for considering U.S.-Japanese relations.⁴ Science and technology make their appearance (how can one not mention the atomic bomb and Hiroshima?) as context for changes in state and business relations and in cultural perceptions—but not as critical sites through which these and other relations were

³ This field is vast. For an overview of analytic perspectives and work see John Law et al., *The Handbook of Science and Technology Studies*, ed. Ulrike Felt et al., fourth edition (Cambridge: The MIT Press, 2016). For insight into how the science studies and its engagement with the category of the modern fits into the Asian context see Daiwie Fu, “How Far Can East Asian STS Go? A Position Paper,” *East Asian Science, Technology and Society* 1, no. 1 (December 1, 2007): 1–14, <https://doi.org/10.1215/s12280-007-9000-y>. This was an introductory essay of the first issue of the journal seeking to set its analytic compass in relation to the categories of East Asia, Western modernity, and the Western-inflected character of science studies.

⁴ Kenneth B. Pyle, *Japan in the American Century*, (Cambridge : Belknap Press of Harvard University Press, 2018).

negotiated, contested, and constituted. Indeed, as a simple measure of his historiography, one will not find “science,” “technology,” or their cognates in the book’s index.

Such comparison between this special issue and *Japan in the American Century* is to offer a glancing contrast. The more salient point is to take seriously the foundational claims above: that science and technology are at the core of the modern project through their commitment to specific modes of rationality and inquiry and that historical actors employed those methods (and their expression in things) to constitute particular notions of nature, politics, society, and the human.⁵ They are at the heart, not the margins, of how particular orders were created and sustained. Said otherwise, the modern and the domains of science and technology were co-constituted whether seen through macro structures of universalistic Enlightenment ideology or specifics of scientific and technological practice in local, non-Western contexts. This insight has been, especially fundamental to reshaping understanding of the historical trajectory of European and American colonialism. Scholars have used this approach to “unpack” the science- and technology- derived methods and ideologies that structured inequalities and power relations in Western colonial and postcolonial interventions. Not least, too, in taking science and technology as crucial sites of fashioning, this literature has opened up the agency of

⁵ The seminal text on this point is Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life; Including a Translation of Thomas Hobbes, Dialogus Physicus De Natura Aeris by Simon Schaffer* (Princeton : Princeton University Press, 1985). This work spawned a large body of historical and theoretical literature on the foundational role of modern science in constituting modernity’s basic intellectual categories. This work is roughly coeval with the early work of sociologist/philosopher Bruno Latour, who served as an important nexus through which other humanities fields took up the modernity/science analytic sketched here. As a summary of the Latourian perspective see Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, 1st edition (Oxford: Oxford University Press, 2007).

indigenous actors as they negotiated, adapted, or resisted the force of modern Western practices of the social and personal.⁶

This preamble has specific application to the case of the United States and Japan. The concepts and practices of Western modernity explicitly animated a major transformation of Japan as nation and society: the 1868 Meiji Restoration, the aim of which was to commit Japan, in its own fashion, to become modern. A key feature of this profound reorientation was to make science and technology, organized on the model of a Western nation state, the means by which Japan would develop and project its own interests in a world largely structured by the modern paradigm.⁷ Indeed, as one small marker of this transformation, Max Weber, preeminent intellectual on the grounding of modernity in the European cultural experience, was, through his work, an intensive object of study in Japan in the years before World War II.⁸ Japan, then, is the

⁶ Again, the literature on this point is extensive. For the Pacific, a critical domain of research has focused on colonial practices in developing the fields of medicine and natural sciences. See, as a well-regarded example, Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines*. New edition. Durham: Duke University Press Books, 2006. A key exemplar of the broader methodological point is Gyan Prakash, *Another Reason: Science and the Imagination of Modern India* (Princeton: Princeton University Press, 1999). The now classic reference on the problem of the modern and its relation to indigenous cultures is Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton : Princeton University Press, 2000).

⁷ A relevant entrée into this point is Tessa Morris-Suzuki, *The Technological Transformation of Japan: From the Seventeenth to the Twenty-First Century* (Cambridge : Cambridge University Press, 1994).

⁸ Wolfgang Schwentker, “The Spirit of Modernity: Max Weber’s Protestant Ethic and Japanese Social Sciences,” *Journal of Classical Sociology* 5, no. 1 (March 1, 2005): 73–92, <https://doi.org/10.1177/1468795X05050039>.

rare historical instance in which the European and American modern was not externally imposed, but adopted as a choice.

Neither this introduction, nor the articles, seek to offer a thorough account of the subsequent implementation of this choice, which prevails to the present in Japan.⁹ Rather it is to sketch out the methodological stakes and, through the articles' exploration of particular cases, ranging over the twentieth century, to engage the different ways in which the modern, science and technology, and Japanese life intersected, as seen from its own vantage and in its relationship with the United States.

In this frame, the articles, either explicitly or implicitly, take up another key dimension for understanding the U.S.-Japan relationship and of the mediating role of the Pacific therein. It is embedded in a basic question: how does the modern translate from one place to another (translate both in terms of meaning and movement)? As alluded to above, it is through the mobility of scientific and technological expertise, of things, and of their supporting institutional forms that then, in large measure, perform the work they did in their place of origin, inflected by local values.¹⁰ Such translation, and its effects, is amplified by technologies that embody mobility or enable new modes of control over space and time. Both kinds of work are happening at the same time, giving new ways to reinforce the idea of the nation state and its territoriality

⁹ The connection between Meiji Restoration and the rise of Japan as a postwar economic and technological power is the subtext of works that seek to account for the latter phenomenon. See, as example, Michio Morishima, *Why Has Japan Succeeded?: Western Technology and the Japanese Ethos*, Reprint edition (Cambridge: Cambridge University Press, 1984); and Morris Low, Shigeru Nakayama, and Hitoshi Yoshioka, *Science, Technology and Society in Contemporary Japan* (New York: Cambridge University Press, 1999).

¹⁰ This claim is at the heart of the Latourian actor-network account of the modern and its instantiation in places outside of Europe. Latour, *Reassembling the Social*.

and contemporaneously to de-territorialize or at least muddy the concept of the state's boundaries and its place in geopolitical orders. This mix of agencies and spatial and temporal scales then becomes a distinct analytic lens for looking at interstate relations.

The articles make these points concrete. Daqing Yang's "Crossing the Pacific: Wireless Telegraphy and Spatial Practices in Early Twentieth-Century Japan" captures, after the Meiji Restoration, the intensity of Japanese interest in Western technical advances—in this case, in Italian inventor Guglielmo Marconi's development of wireless telegraphy. What comes into play is Japan's unabashed, overarching enthusiasm for the modern, made manifest through a broad, interlinked set of scientific, technical, and political relationships.

Electromagnetic waves (the carrier of wireless telegraphic communications), transmitters, receivers, and differently placed geographic sites that accommodated these latter two technologies became, for Japanese elites, inseparable from conceptions of state sovereignty and geopolitical stature. The expanded range and quality of communications enabled by wireless telegraphy in the early decades of the twentieth century directly correlated to new conceptions of the Pacific as a place and as a figure in Japanese conceptions of the future—as a nation and as a global actor in the modern sense. It directly correlated, too, to the country's relationship with the United States, with which it had its greatest amount of communications traffic, due to the two countries' multiple commercial and governmental connections.

Individual, personal experiences with wireless telegraphy gave a special narrative force to abstractions of the modern. The new technology began to enable instantaneous communications to commercial steamships transiting the Pacific. Travelers delighted and marveled at this ability to communicate with family or business associates as they passed through the vastness of the Pacific, with steamships often distant from land. In the 1910s and 1920s, the extent and reach of

this communications technology, its touching of everyday lives, for Japanese elites seemed to give credence, as Yang shares, to modern universalist values, by drawing different cultures together through networks of exchange and contact. Yet it was only through making this technology a nation-state project that Japan's values and interests could be secured in a broader competitive world. It was, too, only through Japanese technological control of the Pacific as a distinct and specific space, invested with its own national and geopolitical meaning, that both these perspectives were possible.

World War II, of course, upended the relative, early twentieth-century comity between the United States and Japan. The postwar context, through the 1950s and 1960s, was defined by U.S. hegemony over most aspects of Japanese society, especially through control of technologies with military relevance. Chihyung Jeon's "'No Japanese in the Cockpit': The Airplane and the Role of Race, Culture, and Bodies in Postwar U.S.-Japan Relations" explores the complicated political and cultural terrain of an iconic technology, the airplane. Since the early twentieth century, the airplane stood as emblem of the modern and as a marker of national prestige on the world stage—in terms of military power and as a commercial means, as with the telegraph, to exemplify universalist values and their relation to new modes of controlling of space and time. These multiple threads, attached to the airplane, were thrown into high relief in the postwar context of U.S. occupation of Japan and its thorough going control of a defeated enemy. That control was especially detailed as Japan sought to re-establish aircraft manufacture and flights.

The United States prohibited all aspects of military aviation but allowed a slow, fitful reintroduction of Japanese civil aviation. Jeon's article covers the policies and regulations of occupation that structured this move, but the deeper point is one made earlier: that technology

served as a particularly powerful site through which to constitute the social—a new non-militaristic Japan. For Jeon’s actors, U.S. and Japanese, the Japanese pilot and *his* position of responsibility in flying a plane through and across the Pacific, a geography now colored by the recent experience of wartime animosities, became a particularly fraught issue. It started from U.S. presumptions that racial and cultural characteristics rendered Japanese pilots unprepared, even unsuited, to the postwar international commercial aviation, a framework largely defined by American standards. Those standards foregrounded rationality and individual control as pilot traits, which were taken as reflective of Western values and reinforced through a particular regimen of professional training. In contrast, U.S. officials and engineers saw the Japanese pilot given to irrationality, oriental mysticism, and childlike attitudes—longstanding cultural tropes only intensified by the war.¹¹ The challenge was to reconstitute these pilots in the American image.

This process happened, under strict supervision, through a multifaceted program of training pilots to the American model. The program included rigorous training in the gamut of flight protocols of U.S. commercial planes that dominated the postwar market—which had changed markedly through wartime experience. Such training included the insistence that all work be done English, a proficiency largely not possessed by Japanese pilots. The reason for the requirement was twofold: international flight standards required all flight communications between pilots and air traffic controllers be done in English, but the requirement also aimed to reinforce Western valuations of masculinity and rationality.

¹¹ See John W. Dower, *Embracing Defeat: Japan in the Wake of World War II* (New York: W. W. Norton & Company, 2000).

But the reconstitution of Japanese into postwar pilots went deeper. It was not merely about the individual but the individual in relation to the cockpit and the plane. Postwar cockpits, reflective of U.S. aviation dominance, were designed for American masculine bodies, which, on average, were larger. This basic physical fact became embedded in the design and accessibility of an aircraft controls, the design and position of the pilot's seat, and their relation to the co-pilot. This difference led to extensive medical and bioengineering analysis of Japanese bodies and the redesign of cockpits. Each step of this process was rife with assumptions of race and masculinity, and each incremental step in qualifying Japanese pilots for flight was to refashion them into the American model. The Pacific, as the vital geography connecting and separating the two nations, itself loomed large in this refashioning. From the U.S. perspective, the work of traversing the Pacific had to be made safe—in terms of deterring potential military conflict and in creating the technical wherewithal to move through an unpredictable natural space. To be Americanized was to be made trustworthy, to provide the basis for U.S. passengers, business, and the state to be at ease with Japanese pilots, to see them as unequivocally accommodated to a U.S.-dominated postwar order.

Another vector of Japanese accomplishment soon provided a point of critique to U.S. conceptions of hegemony and modernity. By the end of the 1960s, Japan had emerged as a powerful, geopolitical actor through its economic success in U.S. and European markets. Automobiles, cameras, and TVs found ready buyers in the West's expanded consumer societies, substantially enhancing Japan's wealth and its sense of confidence and identity—a marked contrast to the early postwar years covered in Jeon's study. Teasel Muir-Harmony's "The 1970 Osaka World Exposition and the Limits of U.S. Science Diplomacy in the Space Age" juxtaposes this more confident Japan with the United States' symbolic cynosure of the 1960s,

landing humans on the moon in July 1969. As Muir-Harmony's title suggests, with the Space Age, U.S. foreign policy gave invigorated attention to science and technology as symbolic statements of the power and benefits of the U.S. capitalist, democratic model. Such emphasis had a well-known context: the Cold War competition of the U.S. and USSR to align newly-formed decolonized nations with the superpowers' respective ideologies and political economies. Spaceflight, in particular, came to stand as the foremost exemplar of each system.

As they had since the nineteenth century, world's fairs or expositions served as key promoters of the close alignment of science and technology with the modern and the nation state. The 1970 Osaka World Exposition channeled the same ethos, but in that historical moment spaceflight stood as its symbolic fulcrum, which, in turn, opened the possibility of new scrutiny to conceptions of geopolitical power and the modern paradigm. As with the telegraph and the airplane, space technologies shared the same orientation toward the "new" and in the potential to reconfigure human experience. But the technologies of human spaceflight, though provocative on an ideological and metaphysical level, occupied a more ambiguous place in the modern framework. They seemed a radical expansion of control (at least for the United States and the Soviet Union) of new spatial and temporal domains, of possible human futures; but they were experienced as remote spectacle rather than in the everyday as happened with the telegraph and the airplane. In that separation between lofty symbolism and the everyday, the modern of human spaceflight seemed more open to critique.

The Osaka World Exposition was the very first to be held in Asia, reflecting the Cold War competition to "win hearts and minds" of decolonized peoples. But for the United States it also aimed to strengthen the relationship with Japan. The United States had every reason to believe that the space-focused exposition would accomplish that end. Of the world's many

nations, Japan showed a broad popular enthusiasm for spaceflight, especially U.S. accomplishments. Audience research and exhibit design in the U.S. pavilion sought to reinforce that predisposition.

The U.S. displays took a distinctive diplomatic tact: to give prominence to real things that had been to space and back, to give immediacy to the remote spectacle of spaceflight. The pavilion featured the *Freedom 7* spacecraft, which carried the first U.S. astronaut to space; the Apollo 8 command module, from which astronauts took the famous *Earthrise* photo; and, most dramatically, a rock from the Moon returned by Apollo 12. Each stood as concrete proof of a new human historical moment, each rich in the universalist symbolism of the Space Age, each testimony to U.S. technological and scientific capacities in the modern mold. Each stood as a contrast to the Soviet anti-modern preference for secrecy in its spaceflight activities.

Yet the moon rock, the most emblematic of all the objects, an object gathered by humans and brought from another world, opened a fissure, as Muir-Harmony argues, in Japan's thinking about modernity. The rock turned out, from the point of view of exposition visitors, to seem banal—no different than any random Earth rock—and thus out of place in the larger drama of the pavilion and the U.S. modernist narratives. Such perception led to deeper questioning. Was there something fundamentally askew in the U.S. conception of the modern project when it marshaled national resources on a large scale to accomplish something of such seemingly dubious value? Were the values embedded in the moon effort a model that other nations should follow? For a significant fraction of visitors, and other Japanese critics, the answer was “probably not.”¹² For the Japanese, the Osaka World Exposition became a signature moment to recalibrate the

¹² Such perspective, of course, had been voiced by U.S. civil rights and women's movement leaders. See Neil M. Maher, *Apollo in the Age of Aquarius* (Cambridge : Harvard University Press, 2017).

relationship among their own social and cultural values and modern scientific and technical initiatives—in so doing offering a critique of the U.S. spaceflight effort. As Muir-Harmony details, this critique, not by coincidence, found its voice as Japan gained new geopolitical stature and from that enhanced position looked to clarify its own independent national, modernist vision.

Though Muir-Harmony does not invoke the analytic of alternative modernities—of the adaptation of modern values, forms, and practices to local cultural conditions—it is the central interpretive frame of Colin Garvey’s “An Alternative to Neoliberal Modernity: Artificial Intelligence, the Information Society, and the Perceived Threat of Japan’s Fifth Generation.”¹³ The Japanese critique that Muir-Harmony sees as formative in the late 1960s becomes open and explicit in the 1970s and early 1980s as computers and the advent of an information society introduced a seemingly new form of geopolitical power and competition. As in the prior articles, technology—in this case, computers, chips, software, and the organizational forms attached to them—becomes a crucial site for rethinking and remaking the social.

In contrast to spaceflight, the intersecting domain of computers and artificial intelligence (AI) was one in which Japan, through its deep investment in electronics and supporting technologies and its enhanced national wealth, promised to be a formidable competitor. In the 1970s, it made a dedicated effort to be a leader in computer microchip design—the foundational hardware of future computer advances. But the segue to artificial intelligence stood largely as an imaginary, as an anticipated “next thing” that would invest computers, through appropriate design and software, with human problem-solving capacities, but with enhanced speed and spatial scope. Artificial intelligence, if it could be realized, augured a broad reconfiguration of

¹³ For an assessment of this analytic see Mike Featherstone, Scott Lash, and Roland Robertson, eds., *Global Modernities* (London: Sage Publications, 1995).

the relations among individuals, societies, and machines, with local and global consequences—in a world deeply linked through markets AI would confer a crucial competitive advantage to the first nation to make it a reality.

It was in this yet-to-be-realized development that the notion of *threat*, seen by U.S. computer software developers and political actors, emerged as an out-sized concern. As Japanese power and prestige rose through success in consumer markets and the nation became a leader in the key information society technology of microchips, Japan and the United States saw American standing as diminished as it faltered economically and culturally through the 1970s.¹⁴ As the 1980s dawned, the specter of “Japan as Number One” became a U.S. ideological, wake-up call.¹⁵ In this context, Japan’s pursuit of artificial intelligence took on an aura of plausibility and an amplification of the shift in power between the two countries. This perception, as Garvey details, led the United States to see the Japanese Fifth Generation project (the microchip effort of the 1970s was dubbed the Fourth) as a Cold War - style existential threat, despite their decades-long status as allies. The United States and other countries initiated or boosted their own national programs.

But the distinctive feature of the Japanese artificial intelligence effort was not to see its primary goal as achieving spatial, global economic leverage, but to uplift non-elite Japanese to enjoy the potential individual and social benefits of an information society—a concept that had taken hold in Japan and still was seen in utopian terms in the early 1980s. To achieve this goal, Japanese leaders and engineers saw the need to re-think approaches to computer design and

¹⁴ On this point, see Niall Ferguson et al, eds. *The Shock of the Global: The 1970s in Perspective*. Cambridge : Belknap Press of Harvard University Press, 2010.

¹⁵ The classic example of this period literary genre is Ezra F. Vogel, *Japan as Number One: Lessons for America*, 1st Harper Colophon ed (New York: Harper & Row, 1980).

software programming. If non-expert citizens were to benefit from the promise of computers, they would need to be easy and intuitive and (through artificial intelligence) to provide a rich resource for social and educational uplift. And if all that were to be accomplished, it needed to be organized around the Japanese language and speakers—rather than through Western, especially English language-based, designs and software protocols.

Such framing set up, as Garvey shows, this contrast in alternative modernities. Japan did not seek to abandon the modern paradigm but to reorient it to the specific circumstances of Japanese life in the early 1980s and to expectations of life in subsequent decades. For a variety of reasons, the United States failed to grasp fully this position. This failure partly stemmed from the U.S. marked shift in political economic ideology, in which neoliberal market fundamentalism had displaced the more state-centric model embodied by Muir-Harmony's Apollo narrative. From this stance, Japan's turn to elevating cultural and social values as a national priority seemed odd and improbable. After all, was not the market and its values the pivot on which the 1980s world turned, as seemingly evidenced by Japan's own successes? The U.S. response also reflected disorientation, even distrust, that as the Japanese pursued their artificial intelligence effort, they looked to minimize the use of U.S. computer and software capacities. Again, technological things, as shown in the other articles, became the ground on which the actors engaged problems of politics and culture.

This special issue aims to give prominence to science and technology as sources of agency inextricably bound to the modern project—and thus bound to another expression of the modern, the nation state and its interrelation with other states. For the latter, this issue offers a mild corrective. The historiography of nation states, expressed most prominently through the field of diplomatic history, has emphasized elite political exchanges, international institutions,

and ideology as the basis of historical explanation.¹⁶ As offered here, and in consonance with the larger reorientation of humanities' explanatory practice, the field of relevant agencies benefits from a substantive widening and from attention to their interrelations and interdependencies. In the modern context, as the special issue's articles demonstrate, scientific and technical knowledge, practices, and things are fundamental to composing more robust historical accounts. Methodologically, this intervention is not merely about creating a broader explanatory frame. It is, too, to establish—as explored here, in the case of the United States and Japan—how these states, actors, and cultures from their own distinct vantages invested science, technology, and the modern with differing, particular meanings and forms. These differing meanings had consequence not only for the relations of these two nation states, but for the Pacific as a spatial and imaginary construct, embedded with competing pasts, presents, and futures.

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¹⁶ As one reflection on this point in the Asian context see Tetsuo Najita, "Presidential Address: Reflections on Modernity and Modernization," *The Journal of Asian Studies* 52, no. 4 (1993): 845–53, <https://doi.org/10.2307/2059341>.