Constructing an "AI-driven Society"

Idealization and Anxiety in Japan's National AI Strategy

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Abstract

The paper investigates the narratives disseminated in the national AI strategy of Japan from a comparative perspective. Converging with other technologically advanced nations, Japanese AI strategy disseminates a deterministic and techno-solutionist view of AI as a disruptive and powerful technology. AI is hailed as a redeemer to face the compounded crises of economy, ecology, and demography, thereby making national survival possible. Besides these elements of international convergence, the paper further identifies two distinct imaginaries of AI in Japan: First, a utopian vision of Japan as a world-leading "super-smart frontrunner" in AI that shall first realize the stage of "Society 5.0" – an ideal society in which the physical space and cyberspace are converted into one. Second, a narrative of human-centeredness, diversity, well-being, and sustainability that elicits consent. Whereas the first imaginary caters to nationalist sentiments and alludes to conservative discourses of Japaneseness (Nihonjinron), the latter hints at a progressive but neo-liberal narrative of connectedness, legitimacy and self-governance. However, both elements conceal the risks and limitations of AI development for Japan and seek to reconfigure Japan into an "AI-driven society" instead of adapting AI to the needs of the Japanese population.

Keywords

artificial intelligence, Japan, Society 5.0, futures, discourse analysis

Introduction

Japan and its culture are still, especially from the view of the West, approached in a reading that draws prejudiced dichotomies between Western and East Asian geographies. Popular Euro-American readings may still ponder on a mindset based on enlightenment ideals in contrast to an East Asian heritage that builds on Confucianism, Buddhism or Shintō cosmology. While the former heralds values like individual autonomy, the latter draws a romanticised picture of relational harmony or epistemologies of embodied knowledge.

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However, facing a globalized world driven by modernist capitalist imperatives these dichotomies quickly conflate. When Artificial Intelligence (AI) is embraced by companies and nations, both Western and East-Asian cultural readings become pressured by the reality of relentless international competition. They impose few romantic imperatives of capital, connectivity, acceleration and scale. Then, quickly, also intelligence loses its diversity in international philosophical or cosmological readings, becoming reduced to a notion that is formalised, encoded and statistical. Also, in the contemporary reality of Japan, culturally postulated embodied or tacit knowledge remains beyond the purview of current AI. This complicates a simple West–East narrative and suggests that both traditions still operate within a modern, Cartesian mind–body divide, which prevents AI from moving beyond the limits of disembodied, formal cognition (Nishiyama 2023).

Seen from this cultural vantage point, it also becomes necessary to ask to what extent invocations of "Japanese" or "East-Asian" values in AI discourse operate less as genuinely participatory perspectives than as a form of *technological orientalism* that culturally re-packages essentially technocratic projects for domestic legitimacy. The following paper examines this tension in detail by turning to the state-led AI discourse, where such culturally framed terms are most visibly mobilized.

These days, governments worldwide are rushing to both harness and cope with AI – a technology that is making its presence felt in daily lives all around the globe. AI cannot be fully understood if it is articulated and delimited as an external 'thing', 'model', or 'tool', outputting recommendations, creating content, or solving complex tasks. Rather, recent social scholarship illustrates how AI is better understood as woven and negotiated in the everyday realities of users and society, with its applications mediating human relationships, producing intimacies and alienations, social orders and knowledge authorities (Bareis 2024; Rouvroy/Stiegler 2016; Suchman 2023). These lenses, thus, show that within the contemporary sociotechnical landscape, technology like AI is seldom regarded as a neutral or purely functional phenomenon. Rather, it is profoundly entwined with narratives, symbols, and political agendas that frame its development and deployment in normative terms (Cave/ÓhÉigeartaigh 2018). The genesis of sociotechnical becoming and change lies not in technological advancement per se, but is co-created by discursive formations underpinned by capital and infrastructure constellations that powerfully influence societies' orders of knowledge (van der Vlist et al. 2024).

As of now, much of the preexisting research on official AI discourses from a sociological, Science and Technology Studies- (STS) and a political science perspective has focused on the comparative national level (Bareis/Katzenbach 2022), on a supranational level like the EU (Stamboliev/Christaens 2024), but also on a local governance level such as federal states (Flore 2025; Liebig et al. 2024). National AI perspectives around the globe have been studied as a trope that evokes rhetorics of deterministic essentialism (Kim 2023), as geopolitical signifiers in an interna-

tional competitive AI race (Bächle and Bareis, 2022; Cave/ÓhÉigeartaigh 2018), as civilisatory claims of inevitability (Flore 2025), as controversies of public concern such as entertaining dualisms of hopes and fears or highlighting institutional scandals (Kao 2024; Sartori/Boca 2023; Marres et al. 2024; Wang et al. 2023), as well as colonial perspectives of resource exploitation, click work and surveillance of less privileged countries and their workers from the Global South (Regilme 2024; Seto 2025; Soriano 2024).

In Japan, Social Sciences, especially STS, have discussed AI since the 1990s primarily through frameworks such as ELSI (Ethical, Legal, and Social Issues), stakeholder dialogue, and policy engagement. When AI became a national innovation agenda in Japan in the mid-2010s, Japanese STS scholars (similar to their Western counterparts) argued that AI ethics and ELSI initiatives should be developed as a participatory, co-constructed process involving policymakers, developers and the public, rather than as a top-down code for engineers. Reports connected to the Japanese Society for Artificial Intelligence in the late 2010s (e.g. Ema 2019) illustrate this tendency. At the same time, Japanese government strategy documents framed AI primarily as a technological and economic lever for catching up with, and ideally surpassing, Euro-American competitors. In other words, while STS-informed discussions highlighted inclusion, responsibility and governance, state policy placed its emphasis on building an "AI-driven" sociotechnical order.

We place our analysis precisely against this background of a divergence between participatory ELSI claims, Japan's governmental striving for integrating AI across all domains of society, and the geopolitical sparking of AI-first governmental imaginaries that started to dominate global agendas from the early 2010s (Bareis and Katzenbach 2022).

Thus, this paper aims to, first, add Japan to the global literature by further deepening the understanding of the narrative construction of AI from a global perspective of convergence, as suggested by preliminary established conceptualizations of performativity (ibid.). Second, we engage with a critical discourse analysis of Japanese AI policy papers sparking from 2016 onwards. This is the time when AI began to emerge as a major topic in the government's discourse on innovation. We ask: how is AI approached by Japanese governments against the backdrop of national controversies, challenges, and innovation agendas? In other words, what problems is AI expected to solve, what initiatives is it expected to politically legitimize?

In the following sections, after briefly clarifying our analytical-methodological approach, we introduce the specific socio-economic and political background of Japan that is reflected in its current AI initiatives. We then introduce the corpus and give an overview of the policy papers analyzed. The first part of our analysis looks at Japan from the angle of the international research discussion, assessing the, seemingly, universal narrative building blocks of AI inevitability, necessity and need for leadership as articulated in official AI discourses around the globe.

In the second half of the analysis, we investigate two specific conflations of AI. First, the notion of Japanese AI world-leadership ushering in a *Society 5.0* – a new AI society that is both universal and uniquely Japanese – and which seeks to capitalize on patriotic sentiments and reflects the conservative elites' deep-seated desire for Japanese uniqueness and superiority. Second, the framing of this AI society as human-centered, sustainable, and conducive to diversity as a form of governmentality of the Japanese self.

Methodological Approach: AI as Performativity

This paper examines the construction and perpetuation of Japanese AI understanding through symbolic language, understood as performative discourse. We take a cross-national comparative approach to identify points of international convergence and distinct features of the Japanese discourse which are the result of national path-dependencies. As the becoming and impact of AI is only insufficiently understood from a mere technical perspective, we approach the AI phenomenon as a discursive realm that gives societal meaning, identity, political legitimacy, economic, and material presence (Austin 1962; Jasanoff/Kim 2015: 23; Winner 1977). Here, language, speech-acts, and narration are not understood as mere means of communication, but as *practices* anchored in symbolic inscriptions, emotional registers, and normative expectations. The Japanese imaginaries emerge through processes permeated by power relations that define concepts, establish definitions, and frame interpretations. They are performative and interact with the material world as they attribute roles (action-ascribing), set free financial investments (enabling), and pave the way towards a singular Japanese national future (involving material consequences). Authorized performances of AI acquire a self-reinforcing dynamic as a "mobilising political concept" (Garibay-Petersen/Lorimer/Menzat 2025), weaving themselves into the fabric of society.

The entire sample of all documents analyzed is introduced in the following section, which traces the historical trajectory of AI in Japan by embedding its evolution into the general Japanese research and development (R&D) landscape.

Japan's AI Background: a Society Oscillating Between lagging Innovation, Catch-up and World-leadership

Technology has played a crucial role in modern Japanese politics and society. After the Asia-Pacific War, technological deficiencies were identified as one of the reasons for Japan's defeat and the wartime regime was in retrospect criticized as "unscientific" (Dower 1999: 490-492). In the 1960s, the ruling conservatives set a shared agenda of economic growth through science and technology. Together with the bureaucracy it successfully coordinated the development and dissemination

of electric products and nuclear energy plants (Low 2003: 197). Leading innovations, such as the shinkansen high-speed bullet trains, became central tropes of a softer postwar iteration of Japanese nationalism and were connected to *nihonjinron*, a genre of narratives on "Japaneseness" that presents Japan as a homogenous and 'uniquely unique' society that is superior to others (Befu 2001). Techno-optimist beliefs were further reinforced by popular culture, such as the hugely popular robot manga and anime series *Astro Boy* and *Doraemon* (AIS2022: 28). In the 1970s, the influential Ministry of International Trade and Industry (MITI) successfully coordinated the development of a semiconductor industry (Very Large Scale Integration) in Japan. However, thereafter similar industrial policy initiatives failed, contributing to a crisis of Japan's coordinated capitalism (Callon 1995). When Japan's bubble economy of the 1980s collapsed, technology was again seen as a major redeemer for national recovery. Information and Communication Technology (ICT), in particular, was believed to spark new economic growth and revive national pride and hope (Humphrey 2024: 36; Whittaker 2024: 42).

In the 1990s, reforms initiated a gradual power shift from the bureaucracy to the executive (Mulgan 2020) and technology policy began to be sold to the electorate in the form of political visions, often characterized by a nostalgia for the techno-optimism of the 1960s. At the turn of the century, Prime Minister Mori Yoshirō (*1937) presented the first of many subsequent plans for using ICT to engender national rebirth: "The most important pillar for a newborn Japan is the IT strategy, the so-called *e-Japan* plan [...] In five years, we will have turned our country into a world-leading nation of telecommunication" (Mori 2000). This was the starting point of an official rhetoric in which Japan imagines itself as *both* a technological laggard and a world-leader. The lofty goal of digital leadership was renewed in Abe Shinzō's *Innovation 25* agenda of 2007, which presented digital "retro-tech" as part of a techno-nationalist vision in which Japan had regained the position of a major world power (Robertson 2018). Digitalization was further integrated into the "Abenomics" agenda (Spremberg 2023: 67) and connected to the vague idea of a "hope-driven economy" (Mathuros 2019). Humanoid robots played a central role in the Abe administration's vision, as they not only promised greater productivity but were seen as a viable alternative to immigration into the Japanese labor market (Wright 2019).

However, despite some success, various reforms carried out since the 1990s have not solved national issues of economic stagnation, demographic crises, and rural decay. As Whittaker (2024) discusses, by the 1990s, Japan's software industry was characterized by the predominance of spin-off firms from large corporations. They primarily engaged in the provision of customized solutions for their parent companies, reflecting a strategic focus on specialized services and products. Instead of emulating the entrepreneurial dynamism characteristic of a startup-driven high-tech sector, the industry adopted a hierarchical structure reminiscent of Japan's construction sector. This has exerted a deleterious effect on Japan's software industry and significantly shaped the public perception of Japan

lacking competitiveness in the IT sector. These challenges have been further compounded by path dependencies in industrial policy, namely the prioritization of automating manufacturing practices for tangible products (*monozukuri*), which had been a success story of national pride with the competitive automotive industry led by Honda and Toyota. *Monozukuri* also benefitted Japanese robotics (Kovacic 2018), but reinforced negligence towards the national software sector, including AI development. Consequently, the Japanese electronics industry has been undergoing a substantial decline in recent years, decreasing by nearly 50 per cent between 2000 and 2011 (Whittaker 2024: 37-38).

However, when examined in isolation, this narrative of decline risks obscuring the extent to which Japanese researchers have contributed to the development of fundamental AI technologies. Within this macro-structural context, Japan has played a significant, yet frequently understated, role in the development of foundational AI techniques. From the perspective of learning theory, Shun'ichi Amari's seminal contributions to the field, particularly his early research on adaptive pattern classifiers and information geometry, have been instrumental in developing fundamental mathematical tools that facilitate a comprehensive understanding and optimization of neural networks (Amari 1967). In 1980, Kunihiko Fukushima published the seminal work *Neocognitron*, which introduced a hierarchical, shift-invariant architecture that is widely acknowledged as a direct precursor to the Convolutional Neural Network (CNN), lying at the core of contemporary deep learning (Fukushima 1980; LeCun et al. 1998). In the field of computer vision, Nobuyuki Ōtsu's 1979 method for automatic threshold selection established a benchmark for image binarization, garnering significant attention through its extensive citations and pervasive integration within software libraries (Ōtsu 1979). Recent historical work by Yōichirō Miyake and colleagues in the *Journal of the Japanese Society for Artificial Intelligence* (JSAI), "Exploring the Origins of Artificial Intelligence in Japan," has explicitly foregrounded these contributions as constitutive elements of a distinct Japanese lineage in AI research (Miyake et al. 2025; Saitō et al. 2025; Nishida 2025 et al. 2025; Inagaki et al. 2025; Arikawa et al. 2025; Ōtsu et al. 2025). As Miyake et al. note, historical research on artificial intelligence in Japan has been relatively underdeveloped, which makes it difficult to grasp the full scope of Japan's contributions and leads to a distorted and partial narrative of AI history.

When considered in conjunction with the aforementioned structural analysis (see historical summary of this section in Table 1), this grounded perspective indicates that Japan's present challenges in commercializing AI do not signify an absence of intellectual contribution in the academic field of AI development. Rather, it draws a complex picture, underscoring the tension between a robust tradition of publicly oriented, theoretically ambitious research and the institutional struggles of Japan's industrial and software policy regimes. In the following discussion, we posit that this tension is explicitly rearticulated in Japan's recent national AI strategy documents.

Decade	Status / position of AI	Main technologies etc.	Main Japanese contributions
1950s	Early electronic computing, pre-"AI" period	Electronic computers, numerical analysis	Education and infrastructure for electronic computing and information engineering (Moriguchi Shigeichi; Kondō Hideo)
1960s	First AI boom (search & reasoning); PR emerges in Japan	Automata theory, formal languages, early neural nets	Theoretical work linking neural networks and statistics; start of the "Amari school" in neural computation (Amari Shun'ichi); development of ASPET/71 optical character reader and early OCR (Iijima Taizō); formation of automata / pattern-recognition communities (Inagaki Yasuyoshi and colleagues)
1970s	Limits of purely symbolic AI; growth of pattern recognition & expert systems	Pattern recognition, image processing, knowledge-based systems	Large-scale pattern-recognition project and Pattern Information Department at ETL; general-purpose recognition system ARGUS and feature-extraction theory (Ōtsu Nobuyuki); hierarchical pattern-recognition models leading toward the Cognitron line (Fukushima Kunihiko); creation of the Reasoning Mechanisms Laboratory for symbolic logic-based AI (Fuchi Kazuhiro)
1980s	Second AI boom (knowledge representation, expert systems)	Knowledge bases, logic programming, expert systems	Research on logic programming and inference mechanisms and their integration into FGCS (Fuchi Kazuhiro and colleagues); semantics-based machine translation and natural-language processing (Nishida Toyoaki and colleagues)
1990s	"AI winter"; rise of statistical methods and neurocomputing	Machine learning, data mining, statistical NLP, neuro-computers	Coordination of neuro-computer research and RWC program leadership (Amari Shun'ichi); establishment of a Real World Intelligence / Real World Information Processing center integrating images, sensors and robots (Ōtsu Nobuyuki)
2000s	Advanced machine-learning phase before deep learning	Statistical learning, data mining, knowledge discovery	Systematization of the Real World Intelligence / Real World Information Processing framework across pattern recognition and robotics (Ōtsu Nobuyuki); consolidation of machine-discovery research under the label "Discovery Science" (Arikawa Setsuo)
2010s onward	Third AI boom (deep learning, big data, LLMs)	Deep learning, large language models	Re-evaluation of invariant feature extraction, anomaly detection and discriminant learning as anticipating deep-learning issues (Ōtsu Nobuyuki); oral-history project "Exploring the Origins of AI Research in Japan" and reconstruction of Japanese AI lineages (Miyake Yōichirō; Sugimoto Mai; Ōuchi Takako)

Table 1: Extracted from Miyake et al. 2025; Saitō et al. 2025; Nishida et al. 2025; Inagaki et al. 2025; Arikawa et al. 2025; Ōtsu et al. 2025.

As will be shown in our analysis below, the AI strategy documents analyzed in this paper (Table 2) are the latest iteration of the Japanese government's dream of economic recovery and digital leadership, this time fuelled by exaggerated expectations and the current global hype around AI.

The sample focuses on AI policy papers published by the Cabinet Office, an institution that ensures prime minister-centered policymaking and coordinates the ministerial bureaucracy (Mulgan 2020). Besides the Cabinet Office, the Prime Minister and his Liberal Democratic Party (LDP), Japanese AI policy is also shaped by *Keidanren* (Holroyd 2022), Japan's big business lobby group, and the Council for Science, Technology and Innovation (CSTI). The latter includes politicians, bureaucrats, scientists, and business leaders, but no representatives of organized labour. It is also noteworthy that *Keidanren* member organizations, such as The Japan Electronic Manufacturers' Association (JEMA) and Hitachi, are among the LDP's biggest donors (Spremberg 2023: 62). In her policy analysis of the *Society 5.0* agenda, Carin Holroyd (2022) identifies a "society-first" approach (ibid: 24) and a focus on societal needs (ibid: 21) instead of "company-level commercial success" (ibid: 29). However, strong corporate influence and the absence of labor representation suggests otherwise, which is also reflected in the policy documents examined below.

	Date of release	**Name of the Policy document**	**Abbreviation**
Cabinet Office	2016, January 1	Fifth Science and Technology Basic Plan	FSTBP
Cabinet Office	2019, July 9	AI Strategy 2019	AIS2019
Cabinet Office	2021, March 26	Sixth Science, Technology and Innovation Basic Plan	SSTIBP
Cabinet Office	2021, June 11	AI Strategy 2021	AIS2021
Cabinet Office	2022, April 22	AI Strategy 2022	AIS2022
Cabinet Office	2023, May 26	Tentative Summary of AI Issues	TSAI2023

Table 2: Overview of documents analyzed

Japan's Science and Technology Basic Act (1995) requires the government to create five-year plans. The Fifth Plan (2016–2020) highlighted Japan's ICT-driven transformation, R&D successes like Nobel-winning innovations, but warned of declining basic science and stagnant public R&D funding. It set four national goals: sustainable growth, safety, global challenges, and intellectual asset creation.

In 2020, the Act was revised and renamed the Science, Technology and Innovation (STI) Basic Act, expanding its scope to include the humanities, the promotion of innovation, and researcher/entrepreneur training. The Sixth STI Basic Plan (2021–2025) was approved in March 2021.

Since September 2025, Japan has been drafting an AI Basic Plan and guidelines for AI research and use, with a preliminary framework open for public comment. The AI Strategy Review Council, a multi-sector expert body, produces "AI Strategy" documents (2019, 2021, 2022, 2023) that assess global AI trends and set national priorities. These strategies are formalized in the AI Promotion Act (effective September 1, 2025), establishing AI Strategy Headquarters and an expert committee with leaders from law, academia, and industry.

Analysis

1. International Convergence through Tropes of Inevitability, Necessity, and Uncertainty.

As pointed out by Bareis and Katzenbach (2022), there is much convergence among the world's official AI discourses in their articulation of the inevitability, necessity, and uncertainty of AI technology. In the first part of the analysis, we approach Japan with regard to tropes of performativity that have already been identified in nations like the US, China, France or Germany (Bareis/Katzenbach 2022.).

Converging with these nations, the official AI discourse in Japan articulates notions of **inevitability** stemming from the techno-determinist idea of a historically unparalleled revolution engendered by AI technology, which is presented as having agency. The 2016 Fifth Science and Technology Basic Plan, the first policy paper to deal with AI in depth, presented the outlook that AI and other technological innovations are bound to impact not only "human lifestyles but human existence itself" (FSTB: 3), with the "process of creating knowledge and value ushering in a 'revolutionary era'" (ibid: 4), eliciting maximum attention to a momentum of transformation, rupture and zeitgeist. This is, for instance, similar to the rhetoric of the Chinese government envisioning that, "the rapid development of artificial intelligence (AI) will profoundly change human society and life and change the world" (State Council of the People's Republic of China 2017: 2).

The **necessity** of AI for national survival is another aspect shared in official discourses around the globe (Bareis/Katzenbach 2021: 867-869, or Kim 2023; Flore 2025). While necessity often pertains to international competition, the Japanese discourse primarily refers to the techno-solutionist framing of AI as a remedy for a wide array of pressing issues, ranging from energy security to a falling birthrate and rural decline (FSTBP: 4, 13; AIS2019: 2; AIS2021: 4; SSTBP: 3). From 2019 on, necessity is also established by references to the perceived need to catch up with China and the US:

> On the other hand, it is difficult to say that our country is currently in a position to be sufficiently competitive in terms of artificial intelligence technology [...] The struggle for dominance between American and Chinese companies is intensifying, [...] but Japan is lagging (AIS2019: 1).

The AI 2022 Strategy paper even connects AI policies to Japan's survival explicitly (*Nihon no sonbō*) (AIS2022: 4). This is, for instance, similar to the Singaporean discourse, which also expresses anxiety about 'falling behind' (Chung 2025: 8). As will be discussed in further detail below, there has been an ongoing tension between Japanese self-positioning as a digital laggard, coexisting with a self-portrayal of Japan being a digital world leader.

In the further rhetoric built up towards talking AI into being, a play of **uncertainty** and the need for **political leadership** function as a third element of international convergence (Bareis/Katzenbach 2021: 869-871). As elsewhere, AI is portrayed as a self-developing technology that has "the potential to overturn the conventional rules of society and people's values" (FSTBP: 3). In line with the expectations of economic benefits, however, security regulations "to create new rules for protecting personal information and establish codes of conduct" clash with the presented goal to increase financial value and bolster Japanese positioning in an international AI race. Here, national efforts shall "serve as a source of industrial value and international competitiveness" (FSTBP: 14). The Japanese government ultimately takes an economy-first approach by setting low regulatory barriers for AI and seeking to maximize its utilization within economic circulation. This aligns with the policies of countries such as the United States, where neoliberal principles dominate economic policy.

Not just references to AI but also much hailed techniques like "deep learning" appear repeatedly in Japanese AI strategy council reports from 2019 to 2023 (AIS2019: 2; AIS2021: 4, 28-29, 34-35; AIS2022: 2). Historically, these waves of attention always paralleled and interacted with other technologies, such as the development of the internet and their imaginary worlds, for instance the "Advanced Information and Communications Society" (Ministry of Posts and Telecommunications 1995) or "Japanese IT society" (Mori 2000). The extensive buzzwording in the Japanese strategy papers of metaphors like "deep learning", "intelligence", or "AI-driven society" suggest an omnipresence of AI applications, penetrating all realms of society - very similar to Chinese AI strategy papers, for example the historically very influential Chinese "Next Generation Artificial Intelligence Development Plan" of 2017, which similarly abounds with buzzwords such as "smartification" and "intelligentization" (State Council of the People's Republic of China, 2017).

2.1 Society 5.0 and the Japanese Claim to Technological World-leadership

The main vision in the official Japanese AI discourse is *Society 5.0*, put forward with the Fifth Science and Technology Basic Plan of 2016. The *Society 5.0* is based on the concept of Cyber-Physical Systems (CPS), which is premised on the integration of the virtual, digital world with the physical, analogue world. By deploying countless sensors across various environments through the Internet of Things (IoT) and the Internet of Everything (IoE), vast streams of data are collected in real time and analyzed rapidly (FSTBP: 9), aiming at a radical transformation of Japanese society. In this meta and all-embracing digital vision, not only physical objects and people, but also sensory experiences, virtual and simulated realities can be connected and integrated into one larger digital ecosystem. AI technologies are employed into this realm by tracing, tracking and analysing all processes, made legible as data points, enabling predictive and analytical steering capabilities.

Society 5.0 is defined as follows in the Fifth Science and Technology Basic Plan (FSTBP: 11):

> a society that is capable of providing the necessary goods and services to the people who need them at the required time and in just the right amount; a society that is able to respond precisely to a wide variety of social needs; a society in which all kinds of people can readily obtain high-quality services, overcome differences of age, gender, religion, and language, and live vigorous and comfortable lives.

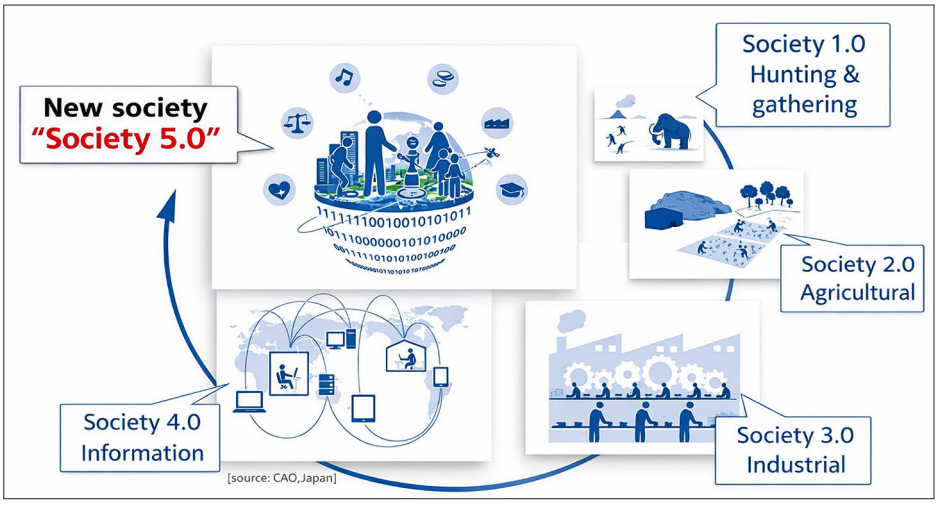

Illustration 1: Japan's vision of Society 5.0

This Japanese vision of a tech society builds on a cybernetic vision of transferring the entirety of society into a real-time smart city communication web (Krivý 2016). In *Society 5.0*, cybernetic command & control language of "feedbacking", "smartification", "intelligentilization", "environmental-behavioral control" is merged with a dreamscape of conflating cyber and physical space into a realm of information that calls to be productively harvested. This notion is reminiscent of the term *Infosphere*, coined by Kenneth E. Boulding in the 1970s. In his work, Boulding added this sphere to other ontological spaces like the sociosphere, biosphere, hydrosphere, lithosphere, and atmosphere (Boulding, 1970). In contrast to the much more popular terms of the 1990s, *cyberspace*[1], or the *information highway*[2], *infosphere* adds another layer that tries to encapsulate the explosion and circulation of raw and unorganized information transmitted through new communication devices and processes of globalization. The Japanese vision of *Society 5.0* shows great similarities to Boulding's infosphere, staging a next step of human evolution, where information, through machine processing, is converted into useful and exploitable data.

The Japanese imaginary suggests that societies exist in different versions or modulations, from Society 1.0 to *Society 5.0* – clearly echoing product or software marketing speech. In a similar vein, the LDP party program for the 2019 election

1 The 1996 White Paper on Information and Communications in Japan conceptualized the "Internet Expo '96" as unfolding within a vast "cyberspace" on the Internet, emphasizing its emergence as a novel cultural and social venue (Ministry of Posts and Telecommunications Japan 1996: 97). However, the subsequent 1997 edition marked a discursive shift by reframing cyberspace as an economic and industrial foundation (Ministry of Posts and Telecommunications Japan 1997: 113; 125). This redefinition was articulated through the introduction of the concept of "cyber business," understood as commercial and social transactions conducted within networked information spaces (Ministry of Posts and Telecommunications Japan 1996: 155). Market estimates highlighted the rapid materialization of this framing, with figures indicating a forty-fold increase from FY1995 (700 million yen) to FY1996 (28.5 billion yen) (Ministry of Posts and Telecommunications Japan 1997: 113).

2 The term "information highway" (*jōhō haiuei*) emerged in the mid-1990s within the context of global competition over next-generation communication infrastructures (Ministry of Posts and Telecommunications Japan 1995; 1996; 1997). France conceptualized it in October 1994 as a state-led modernization initiative, with the objective of achieving nationwide fiber-optic connectivity by the year 2015 (Ministry of Posts and Telecommunications Japan 1995: 345). The discourse was expanded by the United States into a socio-educational agenda during the Clinton administration, with the objective of linking broadband infrastructure to human capital development. In Japan, the 1997 White Paper localized the concept around concrete service implementation, including cable television upgrades, fiber-optics, and video-on-demand (Ministry of Posts and Telecommunications Japan 1997: 265).

expresses the notion of giving Japanese society an "update" (*bājon appu*) through the dissemination of digital technologies (LDP 2019: 10). This societal enumeration is embedded in a historical trajectory, pointing back to past 'human revolutions' and sketching huge temporal horizons of epochs. This reference to human history stages the proclamation of the coming of a new era with *Society 5.0*: Society 1.0 dates back to hunter-gatherer communities, followed by "agricultural", "industrial" and "information" epochs. In this particular modernist reading of history, Japan shall conquer the sky of the "unthinkable" and "realms of the impossible" (Beckert 2016), by entering a new evolutionary stage of human development.

The document also points to competitive realms, making bold statements about Japan's innovative power. While *Society 5.0* is a distinctly Japanese initiative, it aligns with broader international objectives, illustrating, in part, why AI strategies worldwide tend to converge despite variations in terminology. As underlined by the version number 5.0, this is a rhetorical attempt to one-up not only historical epochs but also foreign agendas, notably the German 'Industrie 4.0', and to convey a vision of Japanese digital world-leadership. This vision is combined with values like economic wealth and comfort.

> Through an initiative of merging the physical space (real world) and cyberspace by leveraging ICT to its fullest, we are proposing an ideal form of our future society: a "super smart society" that will bring wealth to the people, [...] 'Society 5.0' (FSTBP: 13 ff).

As mentioned above, the shared experience of three 'lost decades' since the early 1990s has given rise to a political context in which articulations of Japanese leadership are often combined with **anxiety about falling behind** with regard to effective uses of AI, competitiveness, and productivity (AIS2019: 1, 29; AIS2021: 4; AIST2022: 21; TSAI2023: 8). The AI Strategy explicitly frames Japan's role as one of taking leadership in building international research, education, and innovation networks in the field of AI (AIS2019: 5; AIS2022: 8) and is imagined as the center of an "economic data sphere" (*dēta keizai-ken*) (AIS2022: 15). This language signals not only a domestic reform agenda but also a strategic ambition to enhance Japan's visibility and legitimacy on the global stage (AIS2019: 3; AIS2021: 5). Japan's strategic positioning as a normative leader in AI education, pursued through the advancement of data science, mathematics, and STEAM (Science, Technology, Engineering, Art, Mathematics)-oriented curricula, is intended to extend its influence across Asia and beyond. However, the policy emphasis on data science and natural scientific modes of reasoning has produced a technocratic orientation that risks narrowing the educational vision. Although "STEAM education" (AIS2021: 10) is formally predicated on the balanced integration of scientific and artistic domains, current discourse privileges technical and mathematical approaches at the expense of literary, philosophical, and sociological inquiry. This imbalance not only marginalizes critical perspectives that are essential for holistic knowledge production but also constrains Japan's ability to engage with the ELSI

of AI, which are increasingly pivotal to international debates on responsible innovation (Wright 2023).

2.2 AI as a Means to Mythologize National Virtues

At times, the official Japanese AI discourse further alludes to tropes of the previously mentioned *nihonjinron* literature. The 2021 Sixth Basic Plan suggests that Japan occupies a special position that allows it to propose the *Society 5.0* vision due to "Japan's unique values of valuing 'trust' and 'sharing'" (SSTIBP: 4), whereas the 2022 AI Strategy subtly hints at Japanese superiority by mentioning "contributing to the world in a Japanese fashion" (AIST2022: 10, see also 2023 AI Strategy council[3]). This approach relies on a discourse grounded in **national identity construction**. By linking the social use of AI to Japanese traits, this discourse marginalizes alternative narratives concerning power relations in the workplace and inequalities arising from AI implementation. The Council claims that "each individual is creative, competing with one another while crafting meticulous products" (TSAI: 5). At the same time, the Council renders other relevant actors invisible, including technology, corporations, international regulations, and the diversity of users.

National identity essentialization is further made salient by endorsing **global principles**, like the Sustainable Development Goals (SDGs), with supposedly unique national values emphasizing "trust" and "sharing" (SSTIBP: 4). This framing suggests that the digitalization and integration of data, which are fundamental to societal reconstruction, are inherently aligned with the Japanese ethos of empathy and consideration for others. However, empirical evidence provides substantial contradictory insights. In international comparison, Japan ranks 141st out of 142 countries in terms of empathy and altruism, as measured by the frequency of helping strangers, charitable donations, and volunteer participation (Charities Aid Foundation 2024: 18). While such indicators are not without methodological limitations, this incongruity nonetheless underscores the dependence of the *Society 5.0* narrative on a scientifically unsubstantiated ascription of social virtues to the Japanese population, thereby perpetuating a mythologized national identity that promotes the normative advancement of AI and digitalization rather than reflecting observable social behavior. While it has been suggested that the future should be presented to the world "as a vision incorporating, historically and culturally embedded elements within the Japanese, such as traditional values, patterns of empathy and consideration for others, and trust-based collaborative creation" (SSTIBP: 15), such narratives are rather invoked in policy discourse to legitimize decisions.

3 The AI Strategy Council is an expert advisory body established under the Cabinet Office of Japan, within the Council for Science, Technology and Innovation (CSTI).

2.3 Human-Centeredness as a Medium of Citizen Self-Governance

In contrast to the German Industrie 4.0 agenda that employs AI and IoT in the manufacturing industry specifically, AI in the context of *Society 5.0* is also constructing a vision of an ideal Japanese citizen. As prior research has pointed out critically, there is a strong tendency in Japanese government discourse to present AI as a "panacea" (Spremberg 2023) or "cure-it-all" (Humphrey 2024) for individual, domestic as well as global issues. Likely in response to criticism of the original description of the *Society 5.0* in the Fifth Basic Plan, the 2019 AI Strategy and all following strategy papers emphasize the "human-centeredness" of AI that is connected to principles of "dignity", "diversity", and "sustainability" (AIS2019: 2-3; AIS2021: 5; AIS2022: 6). However, only the latter two of these three are elaborated, while "dignity" is not discussed any further. These principles align with the ethical priorities frequently accentuated in Western discourse (OECD 2024) and international forums (UN General Forum 2024).

Nevertheless, their articulation in Japanese policy documents raises critical questions regarding both credibility and implementation. Here, the role of individual policy entrepreneurs becomes crucial in understanding how the rhetoric of "human-centeredness" gained prominence in Japan's AI discourse. Haruo Takeda, Corporate Chief Engineer of Hitachi and a member of the government's AI Council, played a pivotal role in promoting the slogan of "human-centeredness" of AI. He presented this slogan at the Africa AI Forum on December 12, 2018, in Morocco (Cabinet Office, Government of Japan 2019). Although Takeda occasionally reformulated the phrase as "human-oriented AI society" (Cabinet Office, Government of Japan 2019: 3) to accentuate sustainability concerns, his primary advocacy mirrors the Japanese policy discourse that frames AI as a means to build the individual and its well-being, "building peace in the minds of men and women" (Cabinet Office, Government of Japan 2019: 1).

In this paradigm citizens are constructed as **depoliticized consumers without agency**. Concepts of "diversity" and "well-being" are rhetorically mobilized to overshadow an essentially technocratic and authoritarian social order, which is presented as a future society "that ensures national security and resilience, while enabling each individual to achieve diverse forms of happiness (well-being)" (SSTBP: 5). In *Society 5.0*, human-centeredness, essentially, signifies a zoo-like, nudged environment that is both completely depoliticized and controlled. In such a "digital regime of truth" (Rouvroy/Stiegler 2016), all social action is recorded into a legible web of hubs and ties: Citizens become converted into real-time data nodes, risk scores, profiles and patterns. In *Society 5.0,* the society of control conflates both the virtual and the analogue into one "simulacrum" (Baudrillard 1994), creating its own realm: Original and copy, model and image, fact and fiction, reality and imagination become difficult to distinguish. While this conflation leads to a lack of reference, with seemingly interchangeable signs and images, the realm of *Society 5.0* is nonetheless highly political and disciplining: From a Foucauldian perspec-

tive, human-centered AI in Japan functions as a form of biopolitical governance (Foucault 1979: 168; Hardt/Negri 2003: 38-39). As articulated in the AI Strategy 2019 and 2021, the aggregation and examination of energy consumption data, the implementation of "nudges and boosts" informed by 'Behavioral Insights Technology' ("BI-Tech")[4] (AIS2019: 41; AIS2021: 51; SSTBP: 28), and the personalization of feedback mechanisms within the paradigm of *Society 5.0* exemplify the logic of governing through a neoliberal understanding of freedom. Individuals *appear* to exercise autonomy in their decision-making by adopting, for example, energy-saving behaviors. However, their choices are influenced by the subtleties of choice architectures and algorithmic designs. In this paradigm, **freedom serves as a medium of self-governance**, facilitating the optimization of population-level outcomes, such as reducing carbon dioxide (CO_2) emissions and achieving cost efficiency.

In particular, the metaphor of the "double harvest loop" (AIS2022: 15) promoted by the Japanese government can be understood as a cycle of power that operates through the very notion of individual freedom. Individuals provide data through their seemingly autonomous choices, and this data is then harvested, processed, and returned in the form of optimized services, nudges, or algorithmic interventions that further shape their behavior. Consequently, freedom itself becomes the raw material for governance, first captured as data and subsequently re-inscribed into behavioral architectures that guide future decisions.

2.4 Ethical Buzzwording as a Marker of International Legitimacy

The Japanese government's emphasis on buzzwords like "human-centered AI" further reveals two interrelated policy orientations. On the one hand, it aligns Japan with global normative frameworks, especially the European Union's discourse on "Trustworthy AI" and "Human-Centric AI" (Bareis 2024; European Commission 2025). In this sense, the slogan fulfils a diplomatic function, signifying Japan's

4 Since 2019, the Japanese government has designated Behavioral Insights Technology (BI-Tech) as a key policy instrument within its Growth Strategy, Integrated Innovation Strategy, and AI Strategy (Ministry of the Environment 2019). This policy framework involves the implementation of artificial intelligence (AI) to analyze individuals' behavioral patterns (i.e., algorithms) and to deliver customized nudges and incentives designed to promote behavioral modification. *Nudges* are defined as interventions that subtly influence individuals to take specific actions by altering the environment in which they make decisions, while maintaining their autonomy and preserving the economic incentives that govern their actions. Conversely, *boosts* endeavor to fortify individuals' agency by imparting novel competencies, insights, or instruments for decision-making, thereby enhancing their capacity for autonomous and informed decision-making (Hertwig/Grüne-Yanoff 2017).

commitment to ethical AI in international arenas. On the other hand, human-centeredness is used as a marketing claim to attract a global workforce: "Based on the principles of the 'human-centered AI society', it is important to enable diverse talent to contribute based on a wide range of knowledge, perspectives, ideas, etc., regardless of gender, age, political beliefs, religion, or other diverse backgrounds" (AIS2019: 3). While this framing hints at cosmopolitan values and a pro-immigrant stance of "becoming a country that attracts human capital from the world" (AIS2019: 4), "diversity" does not necessarily have progressive connotations in Japanese policy discourse. Since the 1990s, it has served as a euphemistic keyword in the discursive intervention to deregulate the Japanese labor market (Rear 2016). Moreover, the strategy's peculiar wording and artificial emphasis on "diverse talent, such as women and those coming from abroad" (AIS2019: 4; AIS2021:7) underscores the enduring marginalization of women within Japanese policy frameworks and the Japanese labour market. (Nishiyama 2018). This concern is reflected in the World Economic Forum's Global Gender Gap Report 2025, in which Japan ranks 118th overall (World Economic Forum 2025: 227). A particularly disconcerting finding is evident in the domain of political empowerment, wherein Japan's score experienced a decline from 11.8 per cent in 2024 to 8.5 per cent in 2025. This can be attributed to a substantial decrease in women's representation in ministerial positions, from 25 per cent in 2024 to 10 per cent in 2025 (World Economic Forum 2025: 39). These indicators suggest that Japan's commitment to diversity and inclusion falls significantly short of global standards, thereby raising questions about the persuasiveness of the principle when promoted as a fundamental element of AI governance.

The commitment to sustainability is equally problematic. Although the UN's Sustainable Development Goals (SDGs) are invoked frequently (AIS2019: 1, 5; AIS2021: 7-8; SSTIBP: 4), Japan's overall ranking in achievement of the SDGs is in 19th place (Sachs et al. 2025: 12), yet its ecological footprint places it among the five worst-performing countries worldwide (Global Footprint Network 2025). The considerable discrepancy between Japan's sustainability claims and its environmental performance calls into question the credibility of the Japanese government's sustainability narrative.

Taken together, these contradictions suggest that the elevation of values like dignity, diversity, and sustainability functions less as an accurate reflection of Japan's social reality and more as a performative gesture aimed at international legitimacy.

Concluding Discussion – Japan's Paradox of the Tech Leader–laggard

AI in Japan's official government discourses is uniformly framed as inevitable and necessary, which delineates the discursive field of public debate. While it is legitimate for governments to present positive visions of the future to deal with

uncertainty, such socio-technical imaginaries can be problematic when they obscure the risks and downsides of new technologies or utilize emotions rather than arguments. The normative vision of *Society 5.0* leaves little room for the discussion of technological risks and concrete issues such as, e.g., surveillance in the workplace and in personal, intimate spheres. In the Japanese AI discourse, AI and other digital technologies are framed as elements of a vaguely described "super-smart" society. In this "ideal" society, everybody's needs are fulfilled and all societal problems can be resolved with the help of technology - at the cost of depoliticised, docile and transparent citizens who are reduced to data nodes in Japan's panoptic vision of *Society 5.0*.

From a geopolitical standpoint, the policy papers promote an "AI Society" that is presented as uniquely Japanese and universal at the same time. Japanese traditional values are retained, and the nation's imagined historical leadership role as a highly developed and innovative society is restored. In addition to these conservative values, AI is at the same time presented as a progressive technology enabling Japan to fulfil international ethical standards. Articulations of diversity, inclusion, and human-centeredness are hailed, while the material order and socioeconomic structure of this imagined tech-society are obscured. This renders individual political agency obsolete, while revealing an authoritarian core of the Japanese government's AI imaginary. Predominant PR values like diversity and inclusion are carved out in practice and act as faux progressive gestures.

Our analysis further confirms the global convergence of official AI discourses around tropes of inevitability, necessity, and uncertainty. However, Japan's discourse is characterized by distinct national path-dependencies. Japan's official documents tend to justify AI in techno-solutionist terms by explicitly linking it to domestic policy challenges, including energy security as well as a falling birthrate and rural decline, while, from 2019 onward, they also increasingly invoke a catch-up rhetoric vis-à-vis leading AI powers (see Section 2 above). The vision of *Society 5.0* exemplifies this duality: it simultaneously signals Japan's ambition for global digital leadership and its anxiety over being a digital laggard, thereby sustaining a paradoxical leader–laggard discourse.

It remains to be seen how Japan's AI strategy of *Society 5.0* will play out concretely. Many of the buzzwords employed in the strategy papers aim at a digital totality of Japan. How will rights-driven and market-driven aspects ultimately play out (see discussion by Kümmerle/Waldenberger, 2024)? In what way will Japan situate itself between a panoptic control model like the one implemented in China and its social credit score (Liu/Rona-Tas 2024), the risk-based regulation of the EU (Ruschemeier and Bareis 2025), or the laissez faire system of the US (Dylag 2025)? Moreover, with the geopolitical order shifting and military tensions rising in the South-Chinese sea, Japan's anti-militarism stance that has shaped Japanese security identity for many decades, is crumbling, represented in controversial political discussions on the use of military AI, so called lethal autonomous weapon systems (Seidel 2025).

While Japan's political AI discussion corridor seems strongly limited inside a hegemonic techno-solutionist paradigm we also acknowledge the limitations of our sample, since a focus on official documents cannot fully capture how these imaginaries are translated into practice or contested in everyday settings. Despite these constraints, the Japanese case contributes to the broader international literature by highlighting how global tropes of inevitability and necessity intersect with distinct national trajectories and cultural idealizations. It demonstrates how AI futures function not only as descriptive visions but also as instruments of symbolic power that mobilize national sentiments, mythologize historical narratives and link discourses of tech-progress with political power.

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