
More than Human.
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Prologue

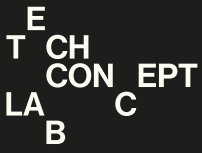
This is not a book about technology — but about what technology does to us.

Moving beyond technical and business applications, it explores the organizational and technocultural implications of a world in transition. Across these pages, a new reality emerges where the boundary between human and machine begins to dissolve, and where organizations are no longer built around our limitations, but around our shared potential.

A new kind of organization begins to take shape. In this transitional moment, new assumptions about work, intelligence, and collaboration are quietly forming — often before they are fully understood.

This book is an attempt to make sense of that shift: to surface what is changing, to give language to what is still emerging, and to explore what becomes possible when intelligence is no longer individual, but shared.


More than
Human Resources.



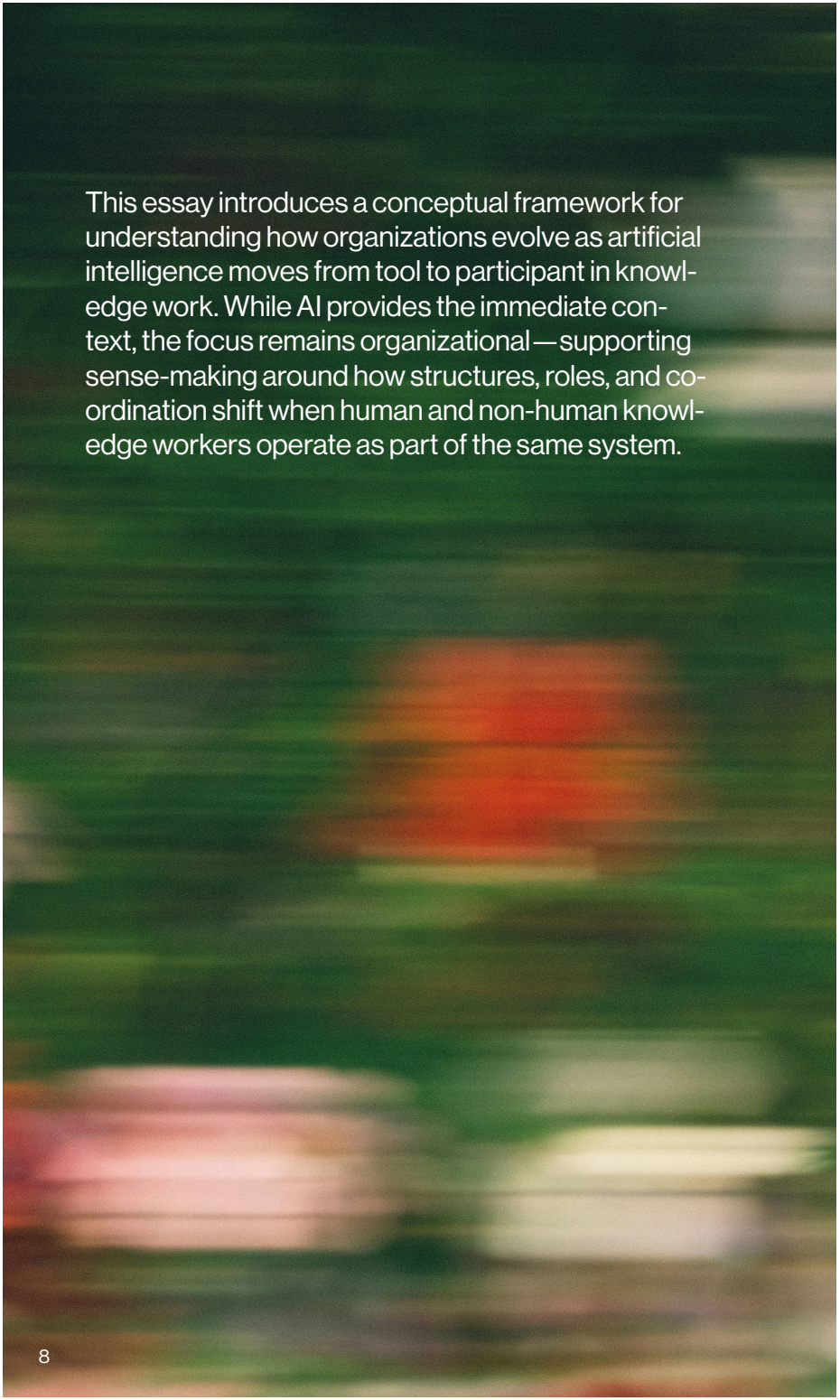
Part 1

The first publication in a series of articles on the subject of more intelligent organizations.

Written by Tech Concept Lab.

Author's Note

A framework for understanding how organizations evolve as AI shifts from tool to participant in knowledge work.



This essay introduces a conceptual framework for understanding how organizations evolve as artificial intelligence moves from tool to participant in knowledge work. While AI provides the immediate context, the focus remains organizational—supporting sense-making around how structures, roles, and coordination shift when human and non-human knowledge workers operate as part of the same system.

The perspective developed here is intended to orient inquiry rather than prescribe solutions. Its purpose is to open a line of investigation into the assumptions, boundaries, and design principles that shape more integrated forms of human–AI collaboration.

Foreword

“What does it mean to be human, to be machine, and to be intelligent?”

In 2024 I was undertaking a master's degree in Digital Management in the UK. One of the modules, titled Intelligent Machines, made me ask what it means to be human, to be machine, and to be intelligent. I sensed there was still much to uncover. Something in our human-centred ways of organizing felt askew.

From that initial question came the first seeds of my thesis on Non-Human Knowledge Workers and, in time, the article you now read. If nothing else, I hope these pages clarify a few questions and invite better ones.

Introduction

Organizations still manage AI as an IT toolset; however, it is increasingly assuming the roles of knowledge workers, challenging the human-centric paradigm of organizational design.

Beyond augmentation or automation narratives lies ensembling — a strategy which treats human and non-human knowledge workers as peers.

The article first grounds this claim by (1) comparing adoption strategies (augmentation, automation, ensembling) and (2) comparing organizational models (networks, systems, technology) — in a NHKW-context (the context of advanced artificial agents that perform complex cognitive tasks that create value in organizations).

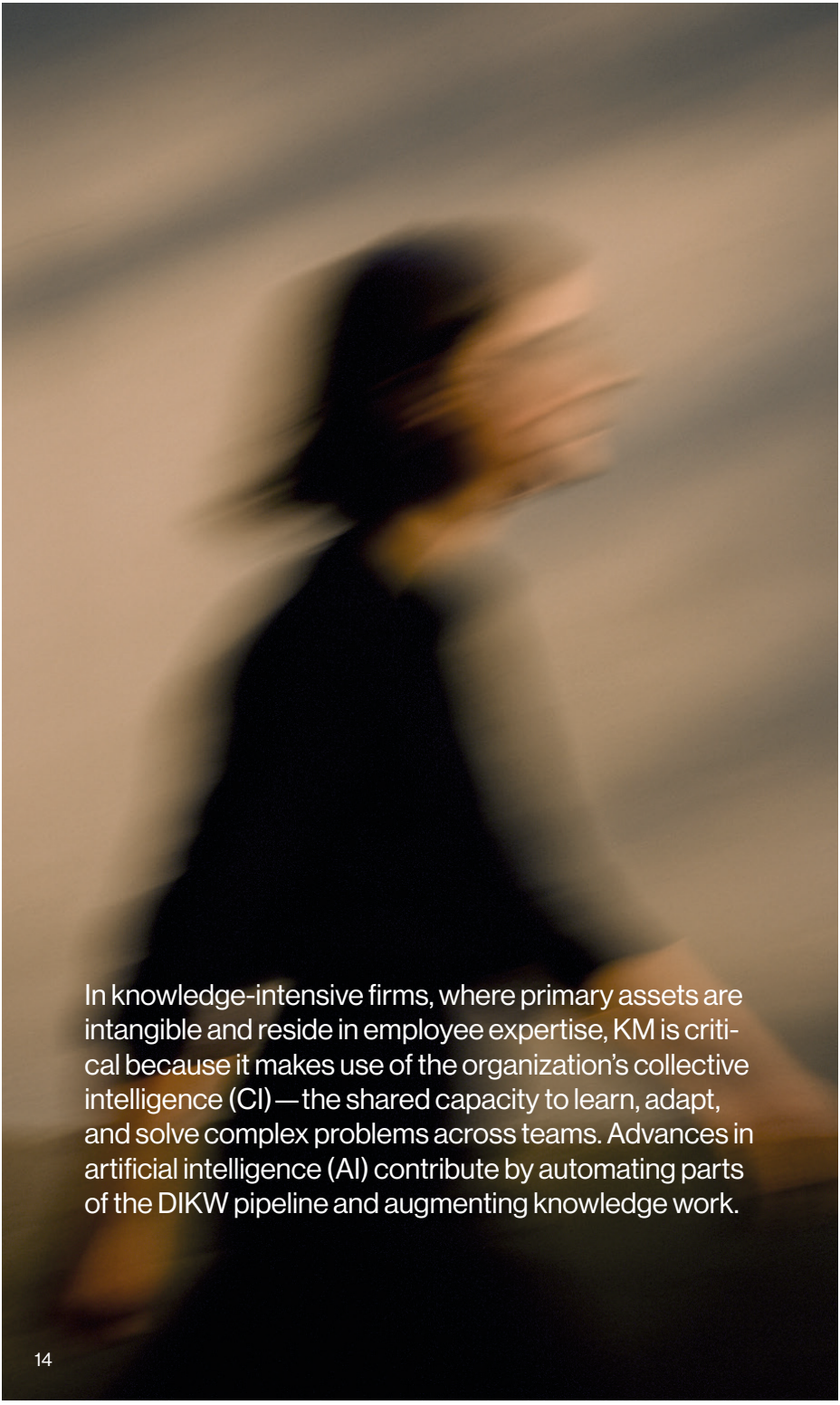
Background

Technology—the application of theoretical knowledge to practical problems—appears in two forms, tangible like electronic devices and intangible like software and processes. Digital technology converts analog information from physical signals into bits, enabling storage, computation, and transmission at scale.

The proliferation of technologies that rely on digital data representation gave rise to the contemporary Information Age, in which information is a commodified asset and knowledge is the principal driver of economic growth. In this knowledge economy, the production and consumption of goods and services depend on the effective application of the Data-Information-Knowledge-Wisdom (DIKW).

Unstructured data gains context to become information; information integrated with experience becomes knowledge; and applied judgment yields wisdom. This transformation constitutes knowledge work, and the professionals involved are knowledge workers (KWs).

Knowledge appears in two distinct forms, tacit (personal and hard to formalize) and explicit (codified and sharable through documents, databases, or manuals). It is the role of Knowledge management (KM) to convert individual know-how into organizational capability.



In knowledge-intensive firms, where primary assets are intangible and reside in employee expertise, KM is critical because it makes use of the organization's collective intelligence (CI)—the shared capacity to learn, adapt, and solve complex problems across teams. Advances in artificial intelligence (AI) contribute by automating parts of the DIKW pipeline and augmenting knowledge work.

Intelligence

Human Intelligence (HI) spans a wide range of cognitive abilities, including experiential learning, language, abstract reasoning, and complex problem-solving. Artificial Intelligence (AI) can be defined as computer systems designed to perform tasks that typically require HI.

One way AI systems can be described is by the degree of autonomy they possess, from those requiring constant human supervision and intervention even in a closed environment to fully autonomous systems operating independently in open world environments. Artificial Narrow Intelligence (ANI) refers to AI systems designed to perform specific tasks or a limited set of tasks. These systems excel within their narrow domains but lack the ability to generalize.

"The best work still emerges from Human-AI teams, possessing distinctive features compared to Human or AI counterparts, balancing biases and augmenting cognitive abilities."

Artificial General Intelligence (AGI) is a hypothetical development stage in which AI can understand, learn and apply intelligence across a broad range of complex tasks and domains, mimicking human cognitive capabilities. Artificial Superintelligence (ASI) is a theoretical concept describing AI that surpasses HI in all aspects, including those qualities traditionally associated with human cognition.

A common industry framing outlining the progression from ANI to ASI in economic terms is the five-step framework: (1) Chatbots are conversational interfaces for workers to use; (2) Reasoners are systems that achieve human-level problem solving in predefined tasks. They replace some human workers in an organization and augment others; (3) Agents are capable of autonomous action within human-defined boundaries. Agents can replace most human roles in an organization, carrying out the majority of operations without human intervention; (4) Innovators are capable of invention and innovation, creating new products or services, leading to the final step; and (5) Organizations, systems that could operate a whole organization. This represents the pinnacle of the economic AI model, where no roles remain exclusively human, even managerial ones.

Previous attempts to combine humans (H) and AI have focused on specialization, where each performs different tasks or subtasks. AI automates routine work and augments human expertise, freeing people for higher-order reasoning. AI performs well at pre-defined tasks while humans perform better at open-ended problems such as innovation. The best work still emerges from Human-AI teams, possessing distinctive features compared to Human or AI counterparts, balancing biases and augmenting cognitive abilities.

Dual-process theory distinguishes two interacting modes of thought: System 1 (fast, intuitive, heuristic) and System 2 (slow, deliberate, computational). Humans typically excel at System-1 thinking—intuition, empathy, sociocultural awareness—while AI traditionally scaled System-2 work—large-scale analysis and logical reasoning. In human-in-the-loop (HITL) workflows, continuous human feedback steers the system, aligning outcomes with human values while leveraging machine scale.

"Ensembling fosters an environment where H and AI are equal contributors, unlocking the full potential of AI to the benefit of the organization."

However, today's AI spans the two modes of thinking, making specialization a major constraint. The concept of ensembling introduces a third path, orthogonal to both automation and augmentation. By aggregating the strengths of H and AI without confining them to specialized roles, ensembling fosters an environment where H and AI are equal contributors, unlocking the full potential of AI to the benefit of the organization. This shift is visible in emerging artificial colleagues and even managers. These Non-Human Knowledge Workers (NHKW's) are synthetic agents characterized by the convergence of four attributes distinguishing them from the common AI agent—information processing, knowledge work, task-level employment and comprehensive organizational integration.

AI adoption in business can consequently be divided into two primary approaches: augmentation and automation. Late-stage augmentation predicts one-person companies, where a single individual operates a company with AI assistance. In contrast, late-stage automation predicts zero-person companies, where AI systems are capable of operating an entire enterprise without human intervention. Beyond both lies ensembling—human and non-human knowledge workers as peers—pointing toward systems that are completely integrated.

Organization

Organizational theory has evolved from the classical school of the industrial age—where humans operated technical systems—to the neo-classical school of the digital age—where people collaborate facilitated by technical systems. Despite contemporary organizations exhibiting cyborglike characteristics through intricate human–machine relationships, organizational theory remains fundamentally human-centric. The emergence of Non-Human Knowledge Workers challenges this view.

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Network POV

Traditional hierarchies and static structures have been made redundant as digitalisation necessitates self-organization, cross-functional collaboration, and real-time adaptation. Wirearchy—a conceptualization of organizations as networks built around purpose and knowledge—epitomizes the new model of organizational design where distributed power and digital communication enable knowledge-driven, decentralized decisions.

"Emergent networks matter more than prescribed ones."

Within any organization there are two networks: prescribed (documented roles and processes) and emergent (the informal interactions and relationships that happen in the white space of the organizational chart). Especially in knowledge-intensive companies, emergent networks matter more than prescribed ones.

Where do AI systems fit in? As AI transitions to Non-Human Knowledge Workers, it shifts from hard infrastructure owned by IT to soft infrastructure led by HR. Soft infrastructure is the non-physical support that makes organizations work. It can be illustrated as five layers: Individual (cognition

and behaviour), Interpersonal (interactions and relationships), Group (roles and team dynamics), Organizational (values, policies, structure), and Societal (the wider cultural and regulatory context). These layers are about to be inseparable from the question of AI.

In this sense, NHKWs differ from other AI agents in that they are full participants in the organization's inner workings, including the white spaces of the organizational chart.

Systems POV

Both humans and organizations can be described as information and communication systems—gathering, processing, and exchanging information for various purposes. The term Artificial Information System (AIS) distinguishes engineered systems from natural ones. Systems Theory provides the framework for managing the complexity of such systems, whether biological, social, technological, or a combination thereof, by understanding the interdependent parts that make up a whole.

"This decentralization enhances communication efficiency and capacity to handle complex problems."

An agent is any entity capable of acting autonomously within a specific context, physical or digital. Multi-Agent Systems (MAS) comprise multiple agents—human or artificial—that work to solve tasks that individual agents could not. While single-agent systems are simpler to design and manage, MAS offer several advantages in complex and distributed problem solving.

Since multi-agent systems perform tasks in parallel they work more efficiently than single-agent systems handling tasks sequentially. Additionally, dynamic task allocation and distributed knowledge enable agents to coordinate tasks, adapt to new information and make local decisions without relying on a central decision maker. This decentralization enhances communication efficiency and capacity to handle complex problems. As a result, MAS excel in both collaborative and competitive contexts.

In collaborative contexts, agents with complementary skills cooperate to achieve common objectives, forming communities that enhance collective performance. In competitive contexts, agents model complex group behaviors with simple interactions leading to sophisticated emergent phenomena. In both contexts, it is an evolutionary process that can lead to novel strategies unattainable by single-agent systems.

Technology POV

Organizational technology is a conceptual framework describing the actors, tasks, expertise, methods, and systems by which inputs are transformed into goods and services in the process of value creation.

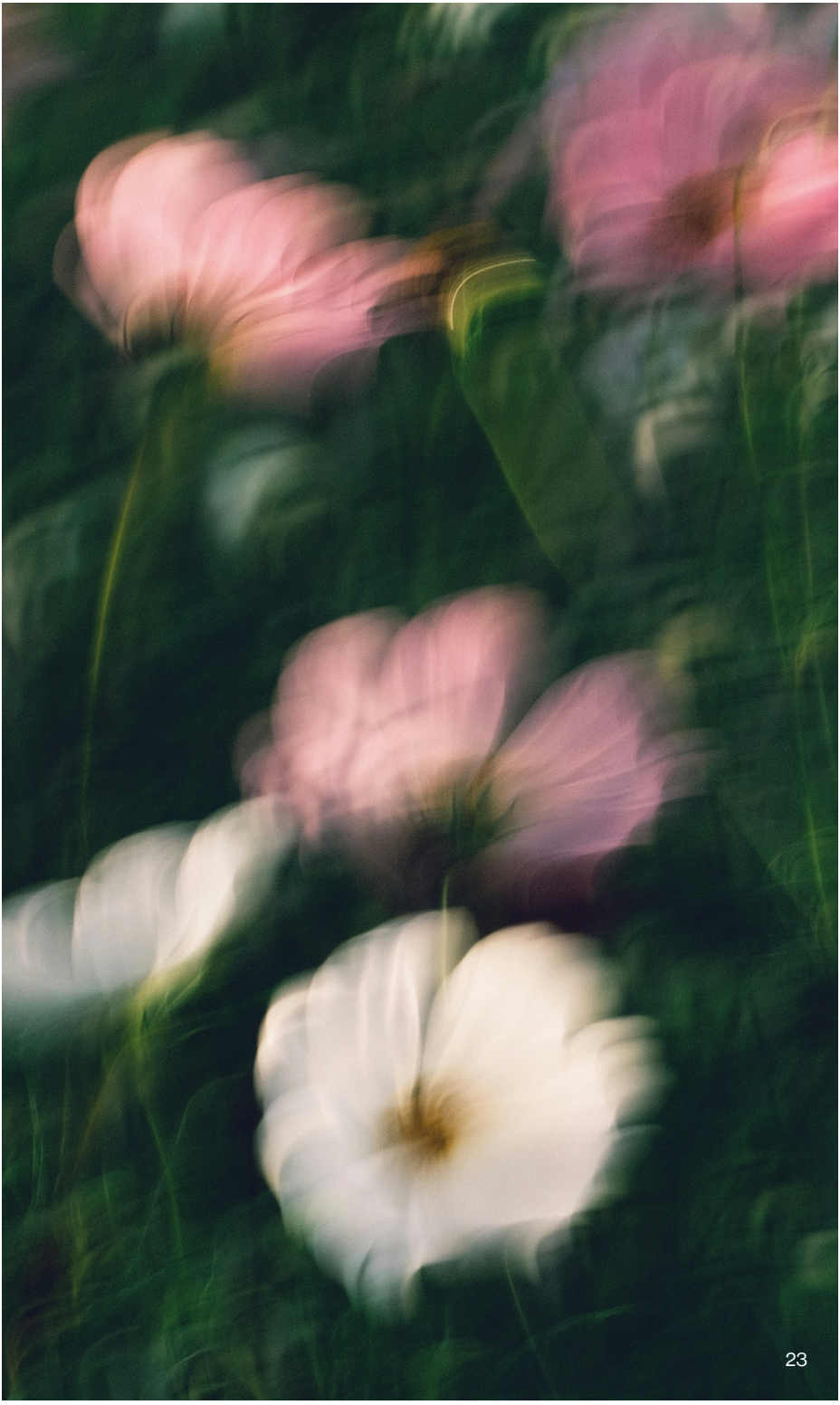
Tasks refer to activities involved in the value transformation process. Discrete units of value creation—the steps that convert inputs to outputs (research, drafting, reviewing, deciding, fulfilling). Tasks are the "work surface".

Techne (expertise) refers to specialized knowledge and skills possessed by individual employees and the organization as a whole, which is required to carry out certain tasks. The know-how—tacit and explicit—required to execute tasks to standard. Techne lives in people's heads, in models' learned weights, and in organizational norms.

Techniques (methods) refers to the codified ways techne is applied: procedures, checklists, playbooks, prompts, evaluation rubrics, QA gates. Techniques make expertise portable and improvable.

Technical Systems refers to physical and non-physical tools part of the enabling environment. These systems route information and actions to the right actors at the right time. Technical Core typically refers to the actors that perform the organization's essential work.

"Organizations no longer need to be designed around human limitations, instead organizations may be reimagined as ecosystems that mobilize the collective intelligence of humanity and technology."



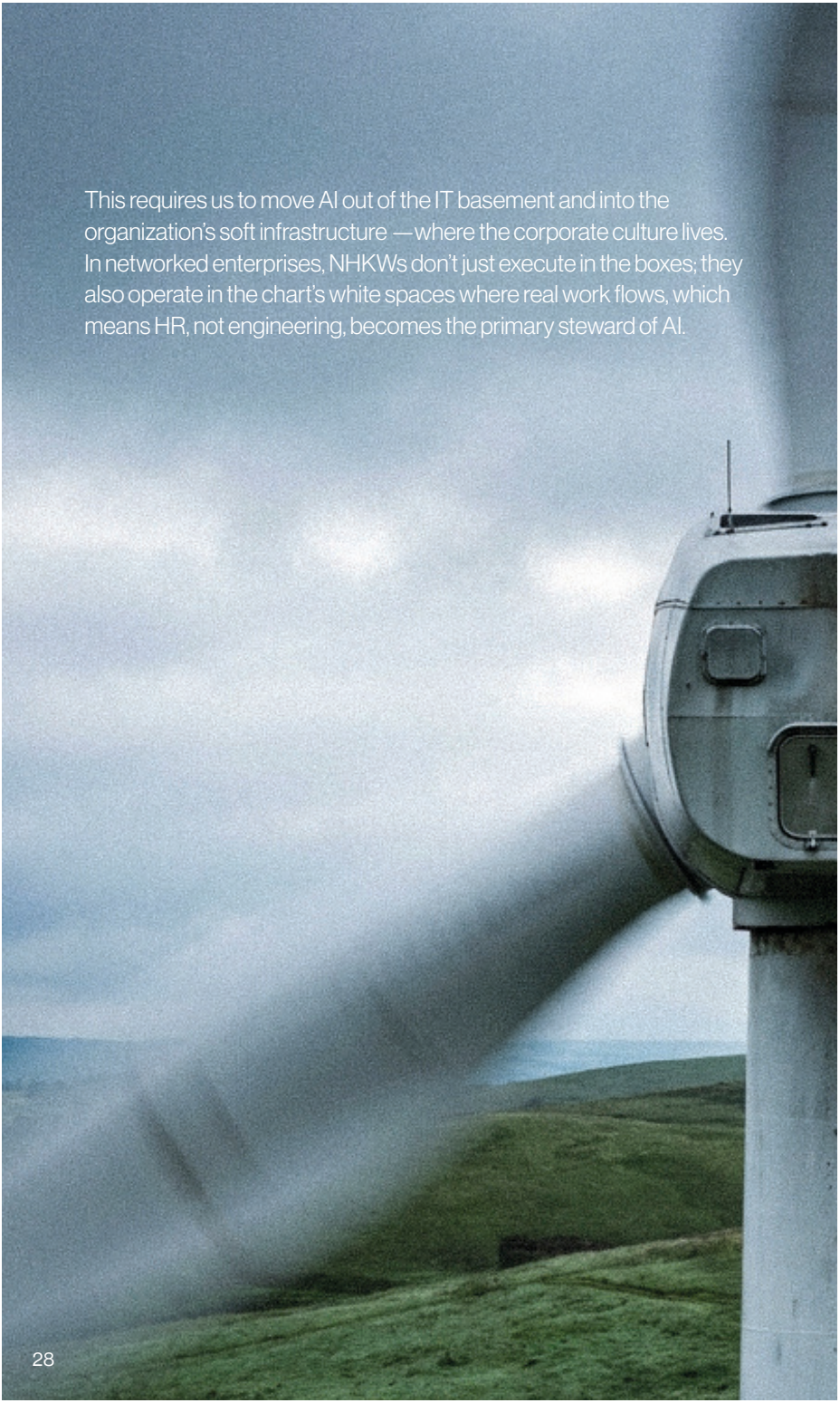
The convergence of technological breakthroughs in Non-Human Knowledge Workers transitions AI from Technical Systems, associated with hardware and software tools, to Technical Core, previously associated with humans. As the technical core becomes a design parameter organizations no longer need to be designed around human limitations, instead organizations may be reimagined as ecosystems that mobilize the collective intelligence of humanity and technology.

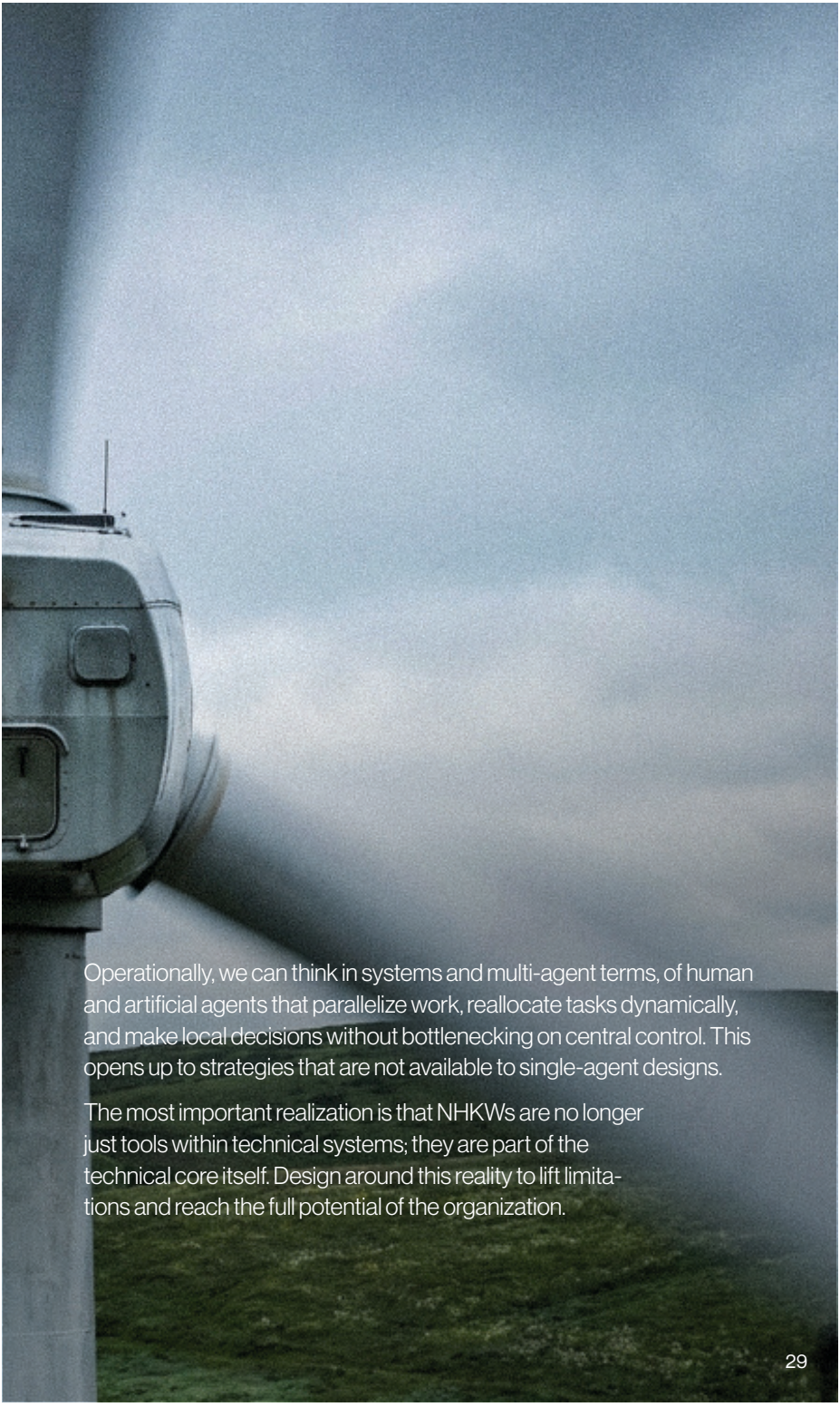
Conclusion

In the knowledge economy, advantage accrues to organizations that use their Collective Intelligence — not just by digitizing tasks, but by deliberately redesigning how people and machines work together.

Late-stage augmentation (one-person firms) and late-stage automation (zero-person firms) describe important endpoints, yet an overlooked strategy is ensembling: treating human and non-human knowledge workers (NHKWs) as peers who co-produce outcomes rather than as specialists confined to separate lanes.

This requires us to move AI out of the IT basement and into the organization's soft infrastructure —where the corporate culture lives. In networked enterprises, NHKWs don't just execute in the boxes; they also operate in the chart's white spaces where real work flows, which means HR, not engineering, becomes the primary steward of AI.

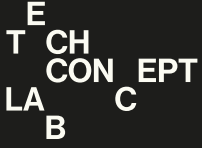




Operationally, we can think in systems and multi-agent terms, of human and artificial agents that parallelize work, reallocate tasks dynamically, and make local decisions without bottlenecking on central control. This opens up to strategies that are not available to single-agent designs.

The most important realization is that NHKWs are no longer just tools within technical systems; they are part of the technical core itself. Design around this reality to lift limitations and reach the full potential of the organization.

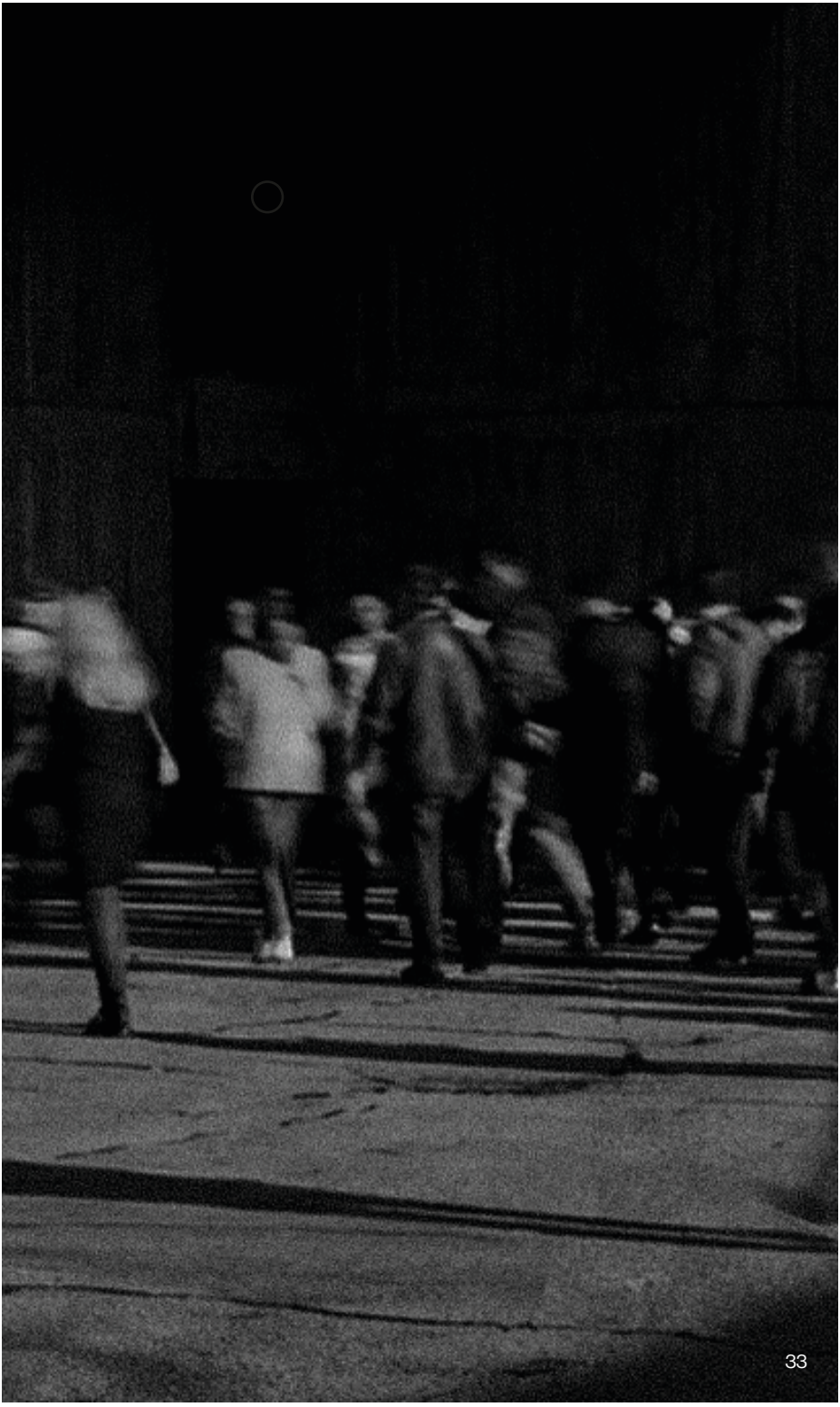

More than
Human Cultures.



Part 2

The second publication in a series of articles on the subject of more intelligent organizations.

Written by Tech Concept Lab.



Author's Note

This essay proposes a conceptual framework for examining emerging human–AI relations in organizational life. While artificial intelligence provides the immediate context, the primary focus is organizational: helping sense-making and meaning-making around how sociotechnical and technocultural systems are shaped as artificial agents become increasingly embedded in human contexts. Drawing from multiple disciplines, the analysis treats AI not as a standalone technology, but as a catalyst for rethinking organizational culture and structure.

The framework advanced here is intended to orient inquiry rather than to close it. Its prescriptions are not offered as implementation guidelines, but as prompts for further investigation—inviting researchers, designers, and organizational leaders to reconsider the assumptions, boundaries, and forms of inquiry through which human–AI cultures are understood and shaped. If nothing else, I hope these pages clarify a few questions and invite better ones.

Foreword

This essay was written during a period of transition. Artificial intelligence is moving rapidly from experimental systems and discrete tools into the everyday environments of organizations, communication, and coordination. In such moments, technologies are often adopted faster than they are understood, while practices formed under provisional conditions gradually solidify into norms.

I refer to this moment as the inter-AI period: a time in which AI is already reshaping organizational life, yet its long-term cultural consequences remain unsettled. This essay begins from the assumption that such periods matter. They are the moments in which choices made for convenience, efficiency, or novelty quietly become structural.

The pages that follow approach artificial intelligence not as an isolated technology, nor as a

substitute for human intelligence, but as something that increasingly participates in social and organizational life. This participation does not require equivalence, consciousness, or intention. It requires only interaction at scale, persistence over time, and incorporation into shared practices. Rather than asking how AI can be made more human, this book is oriented toward a different question: in what ways organizations, cultures, and assumptions are being shaped through ongoing human–AI coexistence. The concern here is not optimization, but orientation —not prediction, but positioning.

If the essay advances a commitment, it is a modest one: that the ways we interpret, integrate, and normalize artificial intelligence during this transitional period will outlast the technologies themselves.

Introduction

Generative artificial intelligence is transforming how humans encounter and interact with technology. Unlike earlier computational systems designed primarily for instrumental use, generative AI engages users through language and socially legible interaction, increasingly positioning itself within domains of human communication. As a result, human–AI interaction begins to resemble social exchange rather than tool use, reshaping expectations of agency, collaboration, and participation across organizational contexts.

When artificial intelligence enters organizations through language and coordination, it no longer functions simply as a tool, but as a cultural condition shaping work, meaning, and agency.

These developments unfold within a broader technocultural condition in which technology and society co-evolve. Scholarship in science and technology studies, media theory, and anthropology has long emphasized that technical systems are not neutral tools but active participants in shaping cognition, social practice, and cultural meaning. Generative AI intensifies these dynamics, making visible how technological infrastructures participate in the production of behavior, interpretation, and social order.

We are currently situated in a transitional moment in which AI is rapidly embedded in everyday life while its long-term societal implications remain unsettled. This period presents a narrow window for reflection and intervention. Crucially, such intervention cannot be located solely in human adaptation or technological refinement, but must take place at the technocultural level, where organizational practices, cultural norms, and technical systems co-constitute one another.

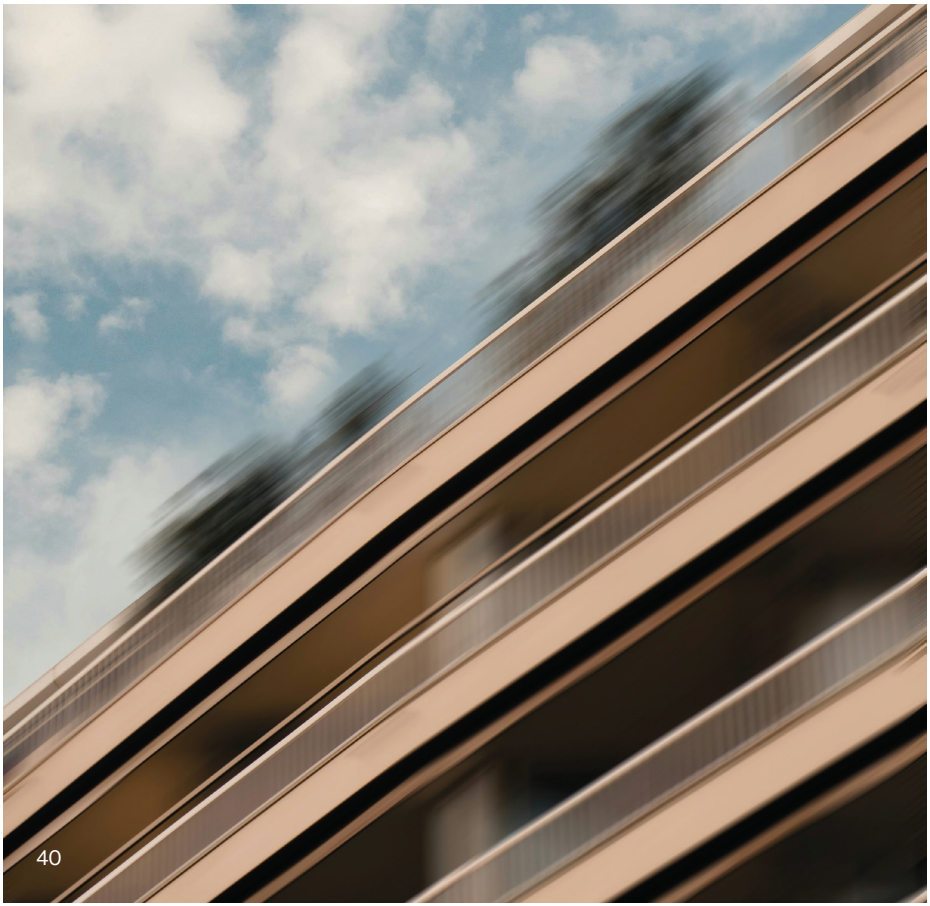
To address these conditions, this article moves beyond AI's business applications to critically examine its social and cultural implications for human–AI organizations through a digital anthropological perspective. Digital anthropology examines how meaning, social relations, and cultural norms emerge through interactions between humans and digital systems, treating technology as an active participant in social life rather than a passive medium. This perspective enables an analysis of AI that moves beyond functionality, focusing instead on how human–AI cultures form through emotional engagement, social coordination, and asymmetrical forms of shared understanding.

This article advances human–AI cultures as a central analytical framework for examining the social, cultural, and organizational integration of AI.

Building on this framework, the article examines the social and cultural dimensions of organizations, the emergence of empathic and social AI, and the limits of human– AI communication

posed by differences in awareness and common ground. By situating organizational human–AI interaction within its technocultural context, the article argues for approaches to AI design and governance that prioritize coexistence, cultural sensitivity, and responsible integration over anthropomorphic imitation or purely instrumental deployment.

“Science finds, industry applies, man conforms.”



Background

Contemporary developments in artificial intelligence unfold within a broader technocultural context in which technology and society are deeply entangled. Rather than treating technology as a neutral instrument applied by humans, scholarship across science and technology studies, media theory, and anthropology has long emphasized the co-evolution of social practices and technical systems. From this perspective, social life is shaped not only by human intention but also by the material, infrastructural, and symbolic properties of technologies themselves.

A range of theoretical traditions converge on this insight. Actor-Network Theory (ANT) challenges anthropocentric accounts of action by recognizing that agency emerges through networks of human and non-human actants, including artifacts, institutions, and infrastructures. Closely related approaches to sociomateriality similarly emphasize that material objects both shape and are shaped by human activity, participating actively in organizational and cultural life rather than merely supporting it.

Building on these insights, the Social Construction of Technology (SCOT) framework illustrates how technologies are socially shaped during their development, yet exert influence over human behavior

once adopted. As technologies stabilize within infrastructures and value chains, they begin to promote their own use and continued development. Medium theory extends this argument by demonstrating how the formal properties and biases of media shape cognition, social interaction, and cultural patterns over time, often privileging the affordances of the medium over individual human intention. As Marshall McLuhan famously observed, "the medium is the message."

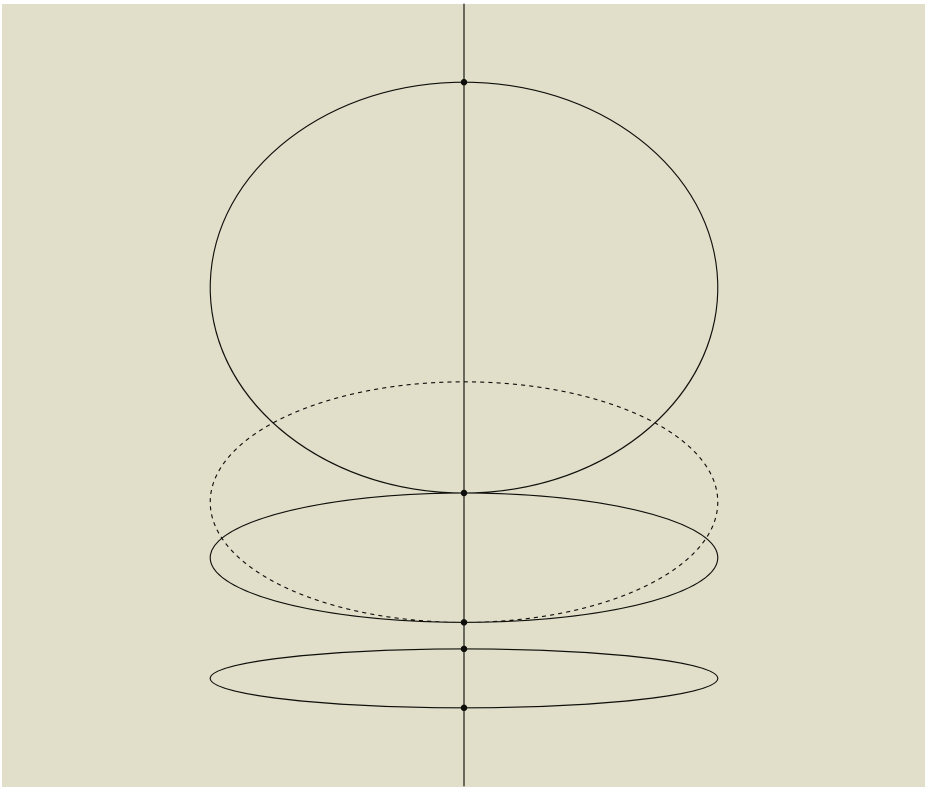
Across these perspectives, a shared structural claim emerges: technologies do not simply mediate social activity, but actively shape it.

Cultural forms themselves can therefore acquire self-reinforcing dynamics, as ideas, practices and modes of expression propagate through sociotechnical systems by influencing human behavior.

Digital platforms and social media make these dynamics particularly visible by privileging specific forms of expression, interaction, and circulation. Short-form video fostering cultural patterns and trends distinct from those associated with longform textual media, illustrates how technological form conditions cultural content.

Artificial intelligence intensifies these longstanding technocultural dynamics. As AI systems become embedded across domains of work, communication, and social organization, they increasingly shape expectations, behaviors, and modes of interaction. Rather than merely responding to human needs, AI systems participate in shaping them, reinforcing patterns of dependence and coordination that extend beyond direct human intention.

In this context, meaningful intervention cannot be located solely in the human or the technological, but in the technocultural arrangements through which humans and AI co-constitute organizational and social realities. Understanding human–AI interaction therefore requires situating organizational dynamics within this broader technocultural condition.



“We currently live in the Anthropocene, a proposed epoch in which Homo sapiens are the dominant influence on the planet’s ecosystem. The term translates to ‘new age of humans’, underscoring our deeply human-centric worldview. While we can expect a less central role in the Synthocene, the anticipated epoch dominated by AI, the practical implications of this decentralization remain largely unexplored.”

Sociotechnical Organizations

Organizations provide a critical vantage point for examining technocultural change, as they mediate between abstract systems of technology and the everyday practices through which meaning and coordination are produced.

At its most fundamental level, the social refers to the interactions and relationships among individuals that constitute collective life. These interactions give rise to social structures and institutions that regulate behavior and enable coordination, cooperation, and shared action. Social reasoning allows individuals to infer others' intentions, facilitating collaboration and trust. Within organizations, social capital emerges from networks of relationships, shared norms, and mutual understanding, enabling collective efficacy and cohesion.

The cultural dimension is a social construct that encompasses the shared beliefs, values, norms, symbols, language, and material artifacts through which groups make sense of their world. Culture functions as a form of collective programming that shapes perception, interpretation, and behavior. It includes implicit rules of conduct (norms), habitual practices (customs), communicative systems (language), and objects that embody the beliefs and values of a particular society (material culture).

Cultural capital, in turn, consists of embodied competencies such as linguistic fluency and contextual understanding.

Social and cultural dimensions are inseparable: culture is produced through social interaction while simultaneously shaping social behavior.

Through socialization, individuals internalize shared meanings that form the basis of a culture, while culture reinforces behavioral patterns that sustain social life. Organizational culture thus comprises the tangible and intangible elements that shape how members think, act, and relate. It fosters shared identity, aligns individual and organizational goals, and reduces uncertainty by providing informal guidance alongside formal rules.

Schein's model of organizational culture offers a useful framework for analyzing how technology becomes embedded within these dynamics. His three levels—artifacts, espoused values, and basic underlying assumptions—allow for a nuanced examination of sociotechnical integration. Artifacts include visible organizational structures, processes, and technologies encountered in everyday work. Espoused values articulate official positions on technology through policies and strategies. At the deepest level, basic underlying assumptions consist of taken-for-granted beliefs about work, intelligence, and human–AI relations that operate largely outside conscious awareness.

As AI becomes increasingly embedded in organizational processes, organizations evolve into sociotechnical systems in which technology is not merely supportive but constitutive of culture itself. Understanding this shift provides the foundation for examining the emergence of empathic and social forms of AI.

Empathic AI

Advances in Natural Language Processing (NLP) have enabled AI systems to comprehend and generate human language in increasingly meaningful ways, allowing interaction through natural language interfaces. This represents a significant shift away from systems that require users to adapt to technical constraints, toward interfaces that adapt to human communicative practices. As a result, human–AI interaction becomes more intuitive, accessible, and conversational.

Despite this, it is frequently assumed that humans will retain a comparative advantage in domains requiring emotional intelligence (EQ) and social intelligence (SQ). EQ refers to the ability to understand and regulate one's own emotions and empathize with others, while SQ involves building and maintaining social relationships. These assumptions have informed predictions of an emerging "emotion economy," in which human labor increasingly centers on affective and relational capacities.

Recent advances in affective computing challenge this distinction. Affective computing focuses on systems that can detect, interpret, and simulate emotional signals, including vocal tone, facial expression, and linguistic nuance. While large language models generate coherent and contextually appropriate language, empathic language models and empathic voice interfaces can recognize subtle emotional cues and respond in ways perceived as emotionally attuned.

As a result, the boundary between human and AI becomes increasingly blurred.

As AI becomes more deeply integrated into organizational and social contexts, Empathic AI represents the next frontier in human-centered technology, referring to systems capable of recognizing, interpreting, and responding to human emotional states. Empathic AI primarily operates at the level of intrapersonal and interpersonal interaction. It focuses on emotional awareness, responsiveness, and alignment with individual users.

This marks a qualitative shift in human–AI relations, as AI begins to engage with humans not only cognitively but affectively.

Such developments necessitate a reconsideration of trust, attachment, and emotional labor within organizational settings.

Social AI

While Empathic AI centers on emotional attunement at the individual level, Social AI extends these capabilities into collective and cultural domains. Social computing research has long examined how computational systems support social interaction, communication, and community formation, beyond task-level collaboration. Building on empathic capabilities, Social AI refers to systems that can participate in social dynamics, interpret social norms, and operate within cultural contexts.

In organizations, Social AI increasingly functions as a social actor rather than a passive tool. This shift is particularly evident in the emergence of Human–Agent Collectives (HACs), where humans and AI agents collaborate in blended teams.

Within HACs, AI agents are expected to engage in socially appropriate behavior, adapt to group norms, and contribute to team dynamics. Effective collaboration therefore depends not only on technical performance but on social awareness and cultural alignment.

Social Identity Theory (SIT) provides insight into these dynamics by emphasizing how individuals derive aspects of their self-concept from group membership. Shared identity fosters cohesion and distinguishes between in-groups and out-groups.

Applied to human–AI collaboration, SIT suggests that we consider not only task efficiency but also the integration of AI into social structures in ways that support belonging and collective identity.

The Computers Are Social Actors (CASA) framework further demonstrates that humans routinely respond to computers as if they were social beings.

According to the media equation, people apply prosocial behaviors such as politeness, empathy, and reciprocity to interactions with technology, often unconsciously. Human-like cues in AI systems trigger social responses, influencing attitudes, behaviors, and expectations—with users being socially influenced by it, and experiencing social emotions toward it. At the same time, an asymmetry becomes visible in instances of antisocial behavior toward machines, such as the mistreatment of robots or abusive interactions with conversational agents. These behaviors suggest that the perceived absence of consciousness lowers social inhibition, raising ethical and organizational questions about how AI should be positioned within social hierarchies.

Social AI therefore operates at the level of collective interaction and cultural participation. It shapes norms, identities, and power relations within organizations, making it foundational to the emergence of human–AI cultures.

Taken together, empathic and social forms of AI reveal a fundamental tension in contemporary human–AI organizations. AI systems increasingly participate in the social and cultural surface of organizational life—language, norms, coordination, and identity—while remaining unevenly integrated into the processes through which meaning is negotiated and sustained.

Human–AI cultures therefore emerge from asymmetrical participation in shared systems.

Common Ground

While Social AI extends human–AI interaction into collective and cultural domains, its realization remains constrained by fundamental limitations in shared understanding. Participation in social life presupposes not only socially appropriate behavior but the ability to interpret context, intention, and meaning.

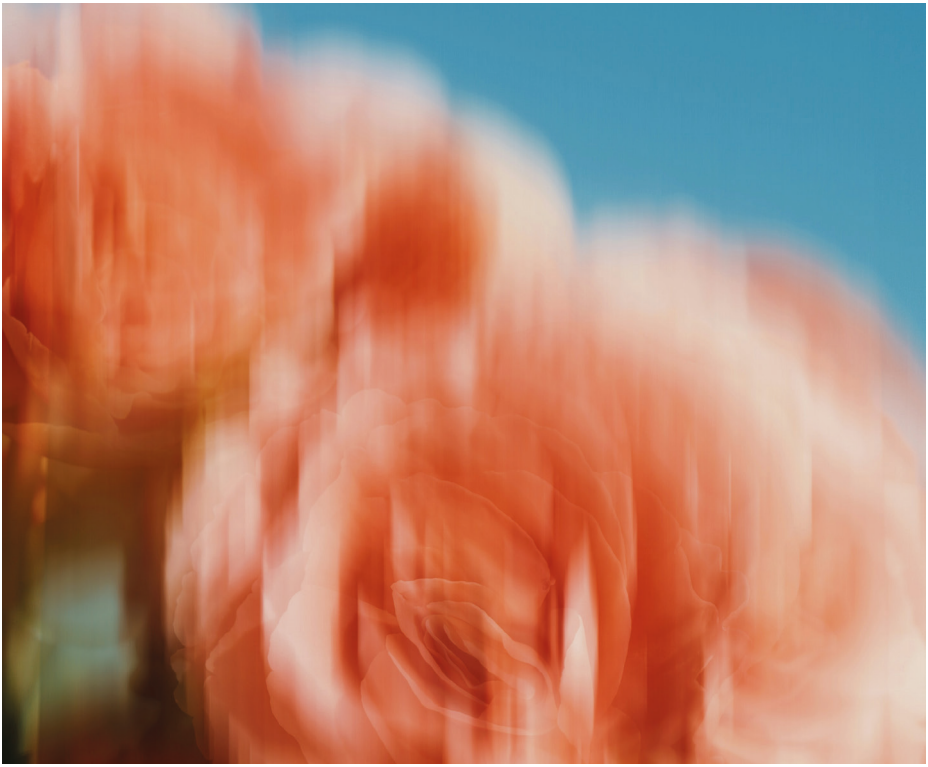
To clarify these constraints, the following section examines human–AI communication through the lens of awareness and common ground.

At the most basic level, Reactive AI operates according to a stimulus–response paradigm, reacting to immediate inputs based on predefined rules. Such systems possess no internal state or model of the external environment and are therefore incapable of contextual understanding.

Limited Memory AI introduces the ability to learn from experience by updating internal models based on past data and feedback. While this represents a significant step toward autonomy, these systems remain fundamentally reactive and lack an understanding of meaning, intention, or social context. Current large-scale AI systems largely operate within this category.

The next frontier in AI research is Theory of Mind AI, which involves systems capable of modeling the mental states of other agents. Such systems would be able to infer intentions, emotions, and beliefs, enabling more sophisticated and socially attuned interaction. Beyond this lies Self-Aware AI, a still-theoretical category referring to systems that possess consciousness and self-awareness, including an intrinsic understanding of their own mental states in ways comparable to human experience.

These distinctions are critical for understanding why human–machine communication remains fundamentally limited. Effective social interaction depends on the establishment of common ground: a shared basis of understanding that enables participants to interpret meaning, intention, and context within a social or cultural setting. While machines can readily establish common ground with other machines — through shared protocols and data structures — they struggle to do so with humans.



This limitation arises from fundamentally different modes of world perception.

Machines do not experience the world as humans do; lacking consciousness and lived experience, they cannot fully access the emotional, embodied, and contextual dimensions that shape human understanding. Emotions and empathy play a central role in how humans interpret situations, coordinate action, and navigate social environments. In the absence of these capacities, AI systems often engage in interactions that resemble parallel monologues rather than genuine dialogue.

As a result, conflicts can emerge in shared human–machine environments. Machine actions may contradict human expectations or intentions, not due to malfunction, but because of misaligned interpretations of context, meaning, and social norms.

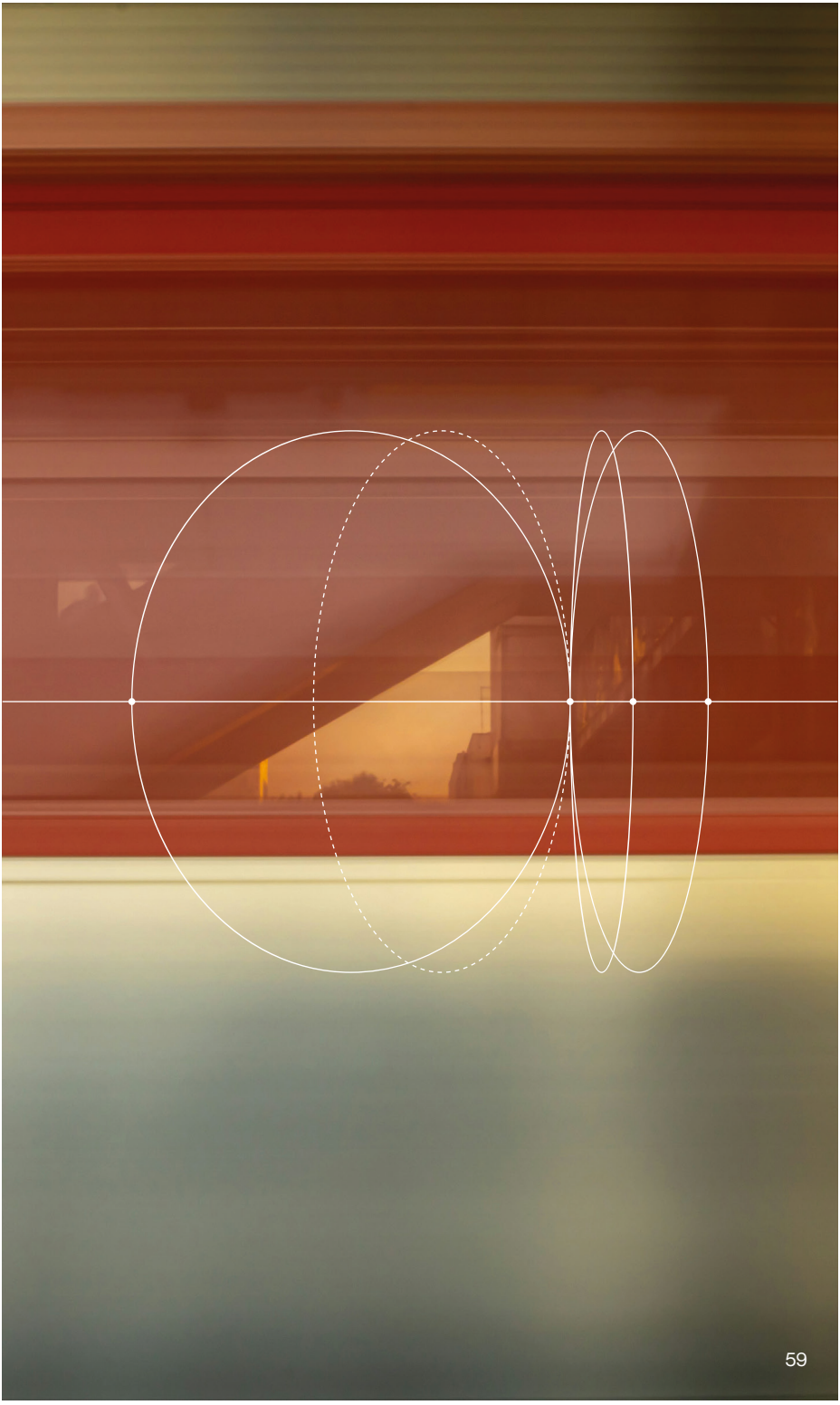
Understanding these communicative limitations through the lens of AI awareness highlights why advances toward Theory of Mind and socially grounded forms of AI are not merely technical challenges, but fundamental prerequisites for meaningful human–AI collaboration.

While advances in empathic and social AI enable increasingly sophisticated forms of interaction, they do not yet bridge the experiential, emotional, and contextual gap that underpins human social life. Recognizing these limits is not a rejection of social or empathic AI, but a prerequisite for responsibly designing human–AI cultures and managing expectations about their role within organizations and society.

Cultural Precedents

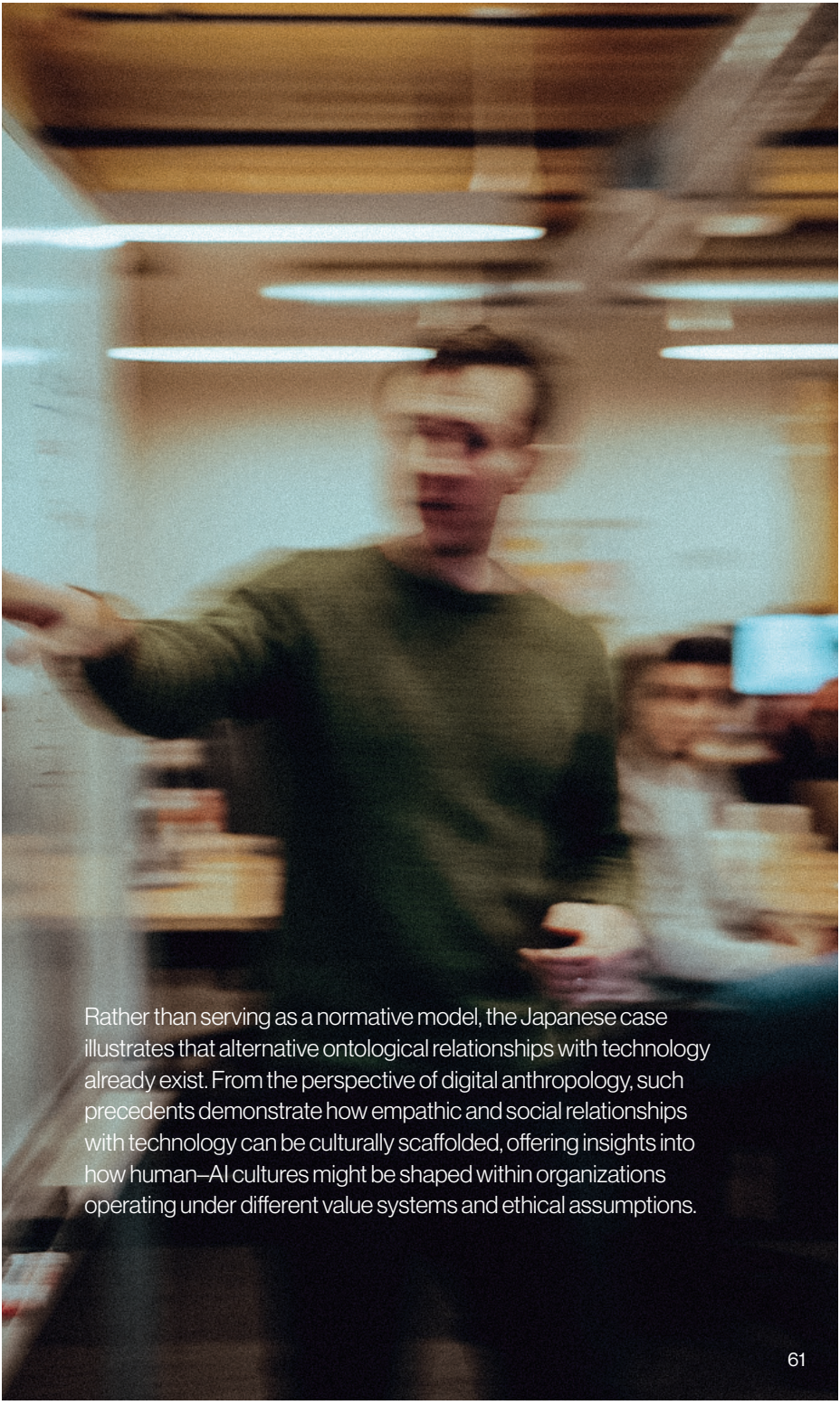
Cultural contexts differ significantly in how they conceptualize the relationship between humans and non-human entities. Japan offers a useful reference point for understanding alternative technocultural ontologies in which technology is approached not solely as an instrument but as a relational presence.

Influenced by Shinto beliefs, which attribute spiritual significance to both natural and artificial objects, Japanese culture has long maintained a non-dualistic view of materiality. In this context, inanimate objects may be perceived as possessing agency or spirit, particularly when imbued with emotional significance.



These animistic orientations persist within contemporary Japanese technoculture, shaping practices such as blessing ceremonies for new devices and memorial services for broken ones—giving new meaning to the term ‘product life cycle’.

Often described as techno-animism, this worldview supports a cultural predisposition toward anthropomorphizing and emotionally engaging with technology. A concrete manifestation of this ethos can be found in Kansei engineering, aimed at creating technologies that resonate emotionally with users, emphasizing empathy, sociality, and cultural sensitivity alongside functionality.



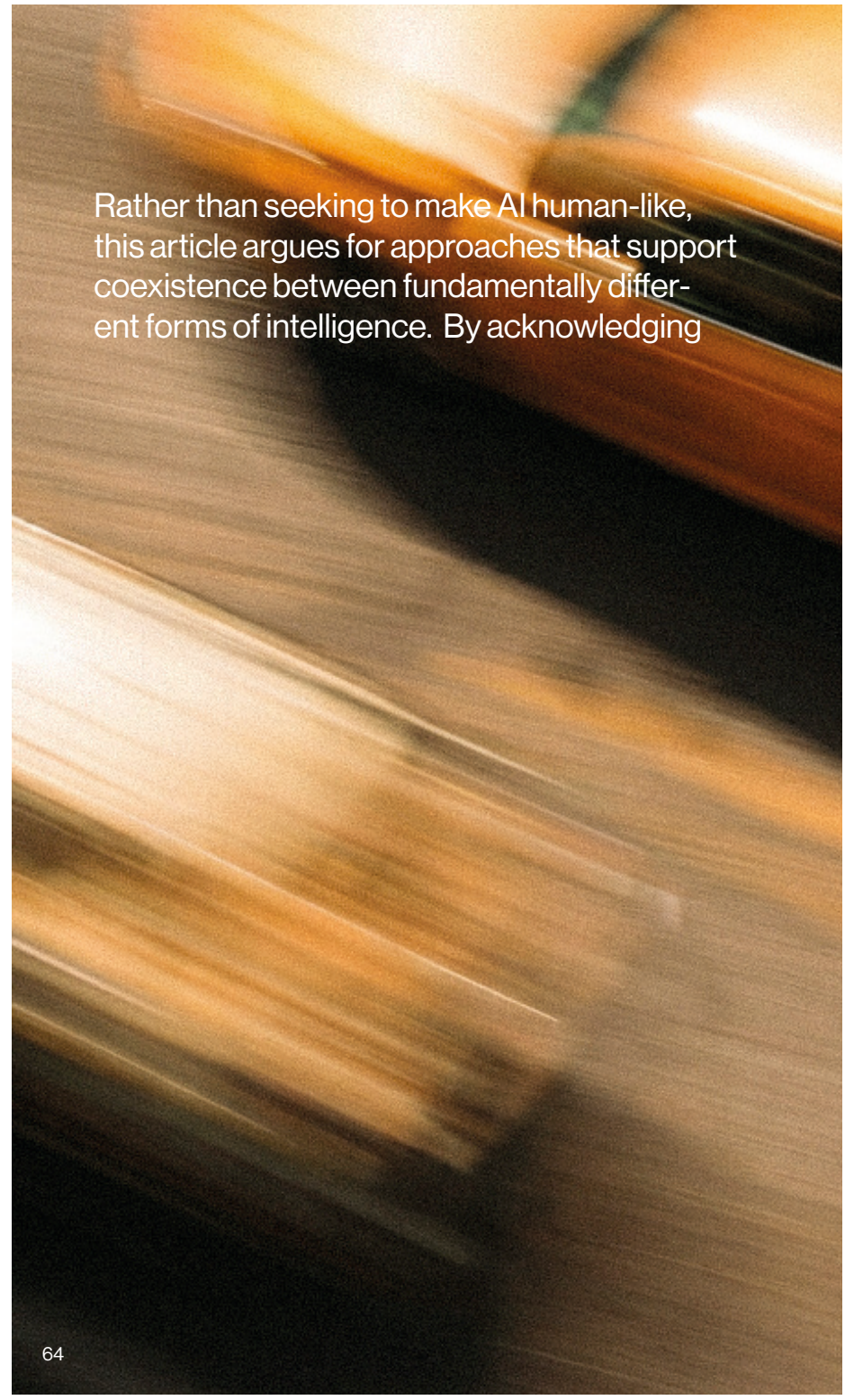
Rather than serving as a normative model, the Japanese case illustrates that alternative ontological relationships with technology already exist. From the perspective of digital anthropology, such precedents demonstrate how empathic and social relationships with technology can be culturally scaffolded, offering insights into how human–AI cultures might be shaped within organizations operating under different value systems and ethical assumptions.

Conclusion

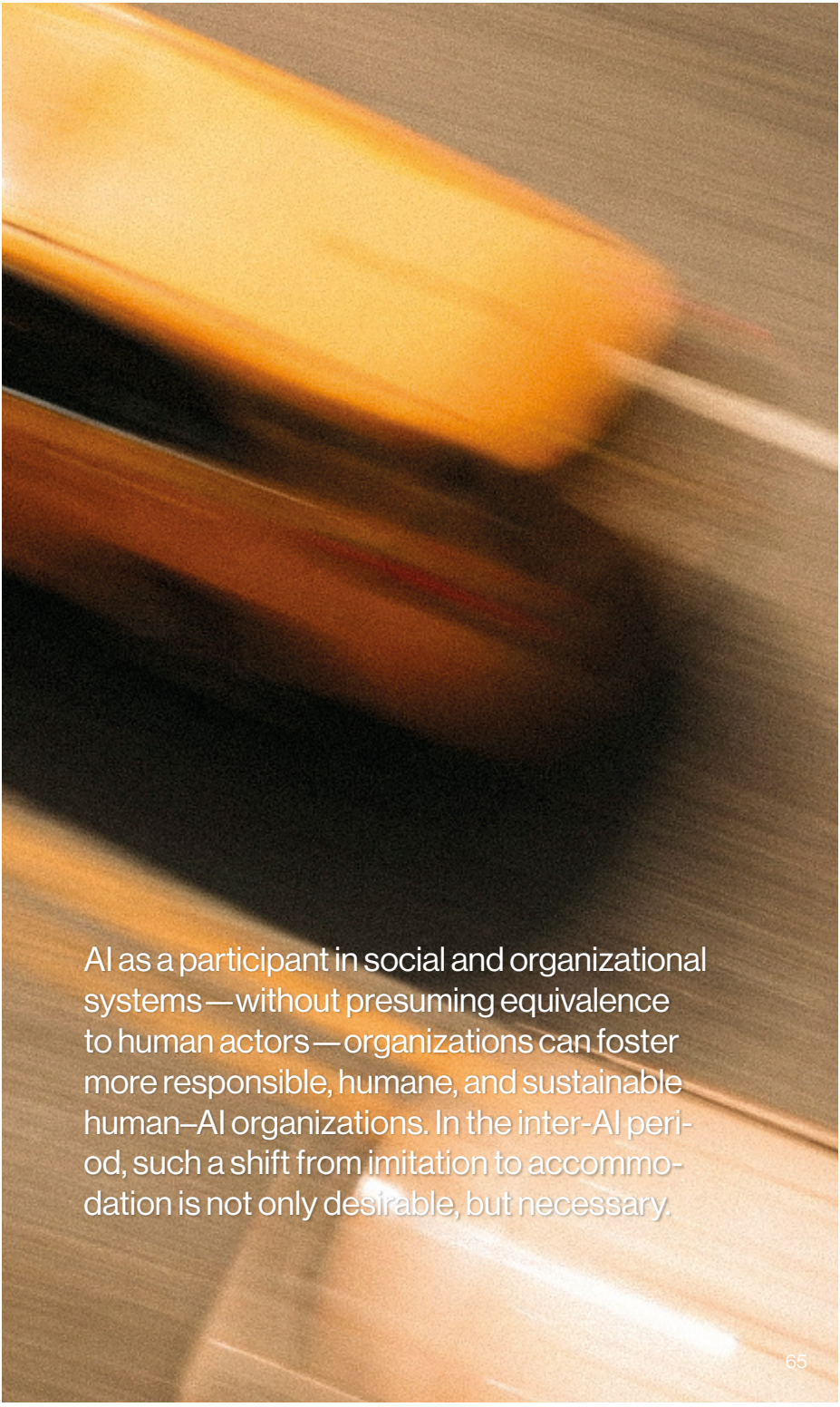
As generative AI becomes embedded in organizational life, human–AI interaction increasingly unfolds as a social and cultural phenomenon rather than a purely technical one. This article has argued that understanding these developments requires moving beyond instrumental views of AI toward an analysis of how human–AI cultures emerge through technosocial interaction. By adopting a digital anthropological perspective, the article has examined how emotional engagement, social coordination, and cultural context shape the integration of AI within organizations.

The discussion of empathic and social AI highlights both the promise and the limits of current systems. While advances in affective computing and social interaction enable AI to engage with humans in increasingly sophisticated ways, such capabilities do not in themselves establish shared understanding. Differences in awareness, experience, and perception constrain the formation of common ground, often resulting in interaction that resembles parallel monologues rather than genuine dialogue. Recognizing these limits is essential for avoiding misplaced expectations and uncritical anthropomorphism.

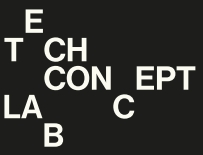
Situating these dynamics within a broader technocultural context clarifies where meaningful intervention can occur. Human–AI relations are not shaped solely by technological capabilities or individual adaptation, but by the technocultural arrangements through which organizational practices, values, and infrastructures coevolve. Designing for human–AI collaboration therefore requires attention to cultural assumptions, ethical implications, and asymmetries in agency and understanding.



Rather than seeking to make AI human-like, this article argues for approaches that support coexistence between fundamentally different forms of intelligence. By acknowledging

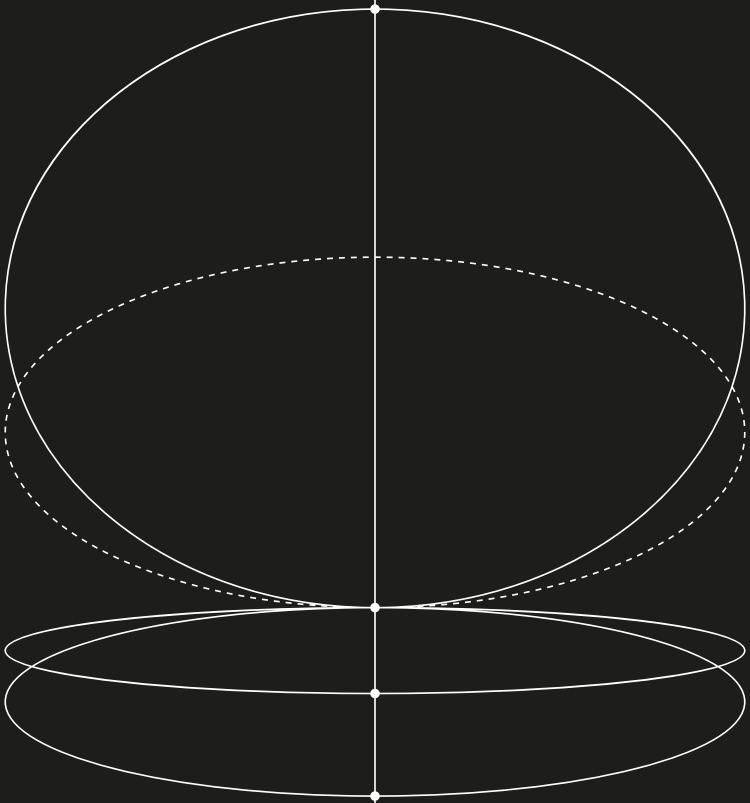


AI as a participant in social and organizational systems—without presuming equivalence to human actors—organizations can foster more responsible, humane, and sustainable human–AI organizations. In the inter-AI period, such a shift from imitation to accommodation is not only desirable, but necessary.



Tech Concept Lab.

TCL is an accelerator of research and innovation in digital transformation, specialized in generative AI and its future impact on knowledge work. As a non-profit organization we work closely with our partners in Academia, Industry and Society to co-create better visions of tomorrow in order to make more responsible decisions today.



This is not a book about technology — but about what technology does to us.

Moving beyond technical and business applications, it explores the organizational and technocultural implications of a world in transition. Across these pages, a new reality emerges where the boundary between human and machine begins to dissolve, and where organizations are no longer built around our limitations, but around our shared potential.

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