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Navigating Sociodigital Futures: AI, Structural Paradigms, and the Horizon Beyond

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Introduction

Contemporary public, academic, and policy discourses frequently portray artificial intelligence (AI) as an autonomous, unstoppable wave sweeping across an otherwise passive social landscape (Halford et al., 2026; Halford & Southerton, 2024). Promoted heavily by commercial technology conglomerates, state industrial strategies, and market consulting firms, this deterministic framing depicts digital systems as exogenous drivers of historical change to which human institutions must passively and reactively adapt (Halford et al., 2026; Wong, 2012). However, critical sociological and educational scholarship challenges this fatalistic worldview through the analytical framework of sociodigital futures (Gonsales et al., 2024; Halford & Southerton, 2024). Rather than conceptualizing technology and society as separate domains interacting in a linear cause-and-effect sequence, the sociodigital perspective understands digital technologies and social practices as fundamentally entangled, mutually constituted, and continuously co-evolving (Gonsales et al., 2024; Negrão de Andrade & Gobbi, 2026). Grounded in relational ontology and empirical research across public administration, education, and cultural heritage, this commentary examines what constitutes a sociodigital future, evaluates how AI has shifted epistemic and organizational paradigms, and explicitly redefines the societal purpose of AI beyond technical capabilities. Furthermore, it outlines the trajectories emerging "after AI" and details practical governance and community solutions to ensure that technological development protects human freedom, serves genuine societal needs, and respects cultural diversity (Cvetičanin et al., 2024; Gonsales et al., 2024; Halford et al., 2026; Halford & Southerton, 2024; Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026; Sandriester et al., 2025; Wong, 2012; Zenkl, 2025).

Understanding Sociodigital Futures: Beyond Technical Determinism

The framework of sociodigital futures decisively rejects linear "impact" models that treat technology as a finished artifact arriving with predetermined social consequences (Halford & Southerton, 2024). Drawing upon relational ontology and the concept of intra-action, sociodigital inquiry asserts that digital technologies, data, infrastructures, and social life do not interact as pre-existing, separate entities; rather, they are mutually constituted and continually emerging within everyday practices (Gonsales et al., 2024; Halford et al., 2026). Because social systems are inherently open-ended and dynamic, prospective sociotechnical arrangements cannot be accurately predicted or projected from historical data points (Halford & Southerton, 2024). Instead, sociodigital futures are understood as futures in the making that are actively performed and claimed

in the present through promissory discourses, strategic roadmaps, and capital investments (Gonsales et al., 2024; Halford et al., 2026). These present-day expectations exert significant performative power: when technology developers, governments, and consultancies frame specific technologies as inevitable, they channel financial resources, institutional mandates, and research priorities toward those systems, foreclosing alternative democratic pathways across fundamental domains such as caring, learning, consuming, moving, and organizing (Gonsales et al., 2024; Halford & Southerton, 2024). Investigating sociodigital futures therefore requires demystifying these promissory claims, analyzing who claims the future, and examining how power, inequality, and human agency are negotiated in everyday institutional contexts (Gonsales et al., 2024; Halford et al., 2026).

How AI Has Shifted the Paradigm: Epistemic Reconfigurations and Redefining Societal Purpose

The systemic rollout of artificial intelligence has precipitated fundamental structural, epistemological, and bureaucratic reconfigurations across contemporary society (Halford et al., 2026; Negrão de Andrade & Gobbi, 2026; Zenkl, 2025). Epistemologically, AI reconfigures the nature of legitimate knowledge by supplanting situated, dialogic, and contextual human deliberation with probabilistic modeling and correlational pattern recognition derived from massive datasets (Negrão de Andrade & Gobbi, 2026). This mathematical reductionism abstracts and flattens lived human experience into standardized metrics, unsettling established concepts of authorship, critical reflexivity, and pedagogical dialogue (Negrão de Andrade & Gobbi, 2026). In public administration and welfare delivery, AI accelerates a transition from traditional street-level bureaucracies, characterized by frontline professional discretion, individualized advocacy, and empathy, to rigid screen-level and system-level administrative regimes (Zenkl, 2025). Within these automated environments, caseworkers find their professional autonomy circumscribed, operating as "living form fields" who spend extensive labor feeding centralized database architectures and validating automated classification scores rather than providing relational counseling (Zenkl, 2025). Furthermore, this paradigm shift deepens data colonialism and platform enclosure, as dominant technologies developed predominantly in the Global North harvest data globally, universalizing Western market epistemologies while marginalizing localized and Global South knowledges (Couldry & Mejias, 2019; Negrão de Andrade & Gobbi, 2026; Wong, 2012).

To overcome this extractive paradigm, it is essential to clarify the purpose of AI by moving decisively beyond what AI can technically do to examine what kind of society we want it to help build (Gonsales et al., 2024; Halford & Southerton, 2024). Dominant institutional and corporate discourses fixate on narrow metrics of computational efficiency, surveillance, and economic productivity; however, a socially just vision demands subordinating technological capabilities to human flourishing, relational well-being, and social equity (Halford & Southerton, 2024; Lehmann et al., 2026; Zenkl, 2025). Rather than allowing AI to dictate social structures or automate human labor out of meaningful public service, its democratic purpose must be explicitly redefined as a supportive administrative tool that absorbs routine bureaucratic burdens to liberate human professionals for relational care, deep pedagogical engagement, and participatory civic solidarity (Lehmann et al., 2026; Zenkl, 2025).

What Lies "After AI"? Infrastructural Convergence, Everyday Taming, and Epistemic Pluralism

Looking beyond the current horizon of standalone algorithmic platforms, research identifies three convergent trajectories that define the landscape after AI (Halford et al., 2026; Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026; Zenkl, 2025). Technologically, institutional and promotional strategies project the integration of AI into ubiquitous cyber-physical infrastructures, where machine intelligence merges with high-performance networks (6G), extended immersive reality environments (AR/VR/metaverse), and autonomous robotics (Halford et al., 2026; Negrão de Andrade & Gobbi, 2026). Within these envisioned environments, automated mediation recedes into the physical background, making computational tracking and algorithmic governance ambient and persistent (Halford et al., 2026). At the organizational frontline, the response to pervasive automation is neither passive compliance nor absolute technological refusal, but rather a dialectical process of "taming" (Zenkl, 2025). Frontline welfare workers cope with bureaucratic constraints by appropriating technological anticipations, envisioning AI as an administrative buffer that automates routine documentation in order to reclaim time for human-to-human care, professional empathy, and discretionary counseling (Zenkl, 2025). Conceptually, moving beyond extractive computation requires dismantling technocentric solutionism and embracing pluralistic, decolonial knowledge systems (Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026). Integrating First Knowledges (FKs) and Traditional Ecological Knowledge replaces computational optimization with frameworks rooted in relational accountability, intergenerational responsibility, and

ecological stewardship, ensuring that future sociotechnical architectures serve planetary survival rather than unchecked extraction (Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026).

Implications for Society and Governance: Practical Solutions for Human Freedom and Cultural Diversity

The performative claims and structural implementations of sociodigital systems generate far-reaching consequences for social equity, environmental sustainability, and democratic governance (Cvetičanin et al., 2024; Gonsales et al., 2024; Halford et al., 2026; Zenkl, 2025). Far from serving as neutral technical instruments, predictive profiling systems and automated decision-making architectures regularly encode, reinforce, and amplify systemic socio-economic, racial, and gender inequalities under an unearned veneer of mathematical objectivity, while widening digital divides based on embodied digital capital (Cvetičanin et al., 2024; Zenkl, 2025). Furthermore, promotional narratives consistently depict digital expansion as clean and weightless, deliberately obscuring the heavy material footprint, intensive energy consumption, and environmental degradation required to sustain computational hardware and global data centers (Gonsales et al., 2024; Halford et al., 2026).

To counteract these systemic challenges and ensure that AI actively serves human needs, protects human freedom, and respects cultural diversity, governments and communities must implement concrete, practical solutions (Halford et al., 2026; Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026; Sandriester et al., 2025; Zenkl, 2025). For governments and regulatory bodies, practical action requires establishing mandatory algorithmic impact assessments and public registers for all automated systems deployed in public services, guaranteeing procedural transparency and non-negotiable rights to human explanation (Negrão de Andrade & Gobbi, 2026; Zenkl, 2025). Crucially, legislation must institutionalize "human-in-the-loop" safeguards that legally protect professional discretion, guaranteeing that caseworkers, educators, and healthcare providers possess the sovereign authority to override algorithmic recommendations based on situated human needs (Zenkl, 2025). Governments must also invest in public, non-commercial digital infrastructures and open-source platforms to dismantle monopolistic dependencies and safeguard regional cultural heritage from technological obsolescence (Sandriester et al., 2025; Wong, 2012).

At the community and educational levels, civil society must foster critical algorithmic literacy programs that empower citizens to understand, interrogate, and contest automated systems rather

than treating them as inscrutable black boxes (Negrão de Andrade & Gobbi, 2026). Community-driven governance should institutionalize participatory "co-design living labs" that bring together software engineers, frontline public workers, and marginalized groups to ensure that technology reflects local values and communal needs (Gonsales et al., 2024; Halford et al., 2026). Furthermore, respecting cultural diversity requires embedding culturally sustaining educational frameworks and Indigenous First Knowledges directly into technology curricula, ensuring that AI design upholds cultural self-determination, linguistic plurality, and place-based community heritage against algorithmic homogenization (Cvetičanin et al., 2024; Lehmann et al., 2026; Negrão de Andrade & Gobbi, 2026; Sandriester et al., 2025).

Conclusion

The primary contribution of the sociodigital futures perspective is demonstrating that technological trajectories are neither autonomous nor inevitable. Although AI has restructured professional discretion, epistemic legitimacy, and institutional governance, its current architecture reflects specific commercial interests, institutional investments, and promissory discourses rather than natural laws. Moving beyond technocratic fatalism requires moving beyond the narrow question of what AI can technically do to actively decide what kind of society we want it to help build, a society founded on human dignity, relational care, and ecological sustainability. By implementing robust governmental regulations that protect professional discretion, developing critical public algorithmic literacy, and centering diverse cultural knowledges, societies can successfully "tame" technological anticipation and reclaim democratic control over our collective sociotechnical future.

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