



Anticipation-informed design by Mihai Nadin (2022)

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Received: 3 October 2025 / Accepted: 20 October 2025

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The language of anticipation has become increasingly prominent in debates about artificial intelligence and digital technologies, but it is often invoked vaguely, conjuring images of foresight, prediction, or speculative futures without much clarity about how it can be practiced in design (Shin 2025). *Anticipation-Informed Design* addresses this gap directly. Rather than treating anticipation as a distant or optional exercise, the book argues that it should be embedded in the everyday work of design, shaping how technologies are imagined, developed, and integrated into social life. In doing so, it reframes design not only as a technical practice of making but also as a site of ethical and political responsibility, where futures are actively contested and constructed.

The central claim of the book is that contemporary design cannot remain tethered to reactive or incremental approaches. Much of human–computer interaction and applied design research focuses on usability in the present, short-term optimization of interfaces, or iterative refinements based on user feedback. While these methods are useful for the conventional products, they are increasingly inadequate for technologies whose effects unfold over long temporal horizons and across diffuse sociotechnical ecologies. Anticipation-informed design draws on anticipatory theory, futures studies, and traditions of critical design to argue that design should explicitly incorporate speculative, ethical, and long-range considerations. The orientation is not predictive in a narrow sense but normative: it asks what kinds of futures design practices enable, foreclose, or legitimate. Here, the book resonates with earlier calls for anticipatory governance and responsible research and innovation, but it insists more forcefully that anticipation must be institutionalized into mainstream design rather than remain the

occasional exercise of speculative workshops or visionary futurists.

One of the most compelling contributions of the book lies in its integration of design studies with critical scholarship on automation and digital infrastructures. Instead of treating AI as a purely technical domain, the author situates it within broader structures of platform governance, data politics, and algorithmic mediation. Anticipation becomes crucial in this context, because the consequences of automated decision-making, machine learning biases, or algorithmic governance often remain invisible until after large-scale deployment. Harms emerge gradually, often when it is too late to contain or redirect them. By embedding anticipatory practices upstream in the design process, practitioners can identify potential risks before they scale, while also envisioning alternative applications and narratives. The book demonstrates that anticipation is not only a matter of ethical responsibility but also a resource for innovation, expanding the repertoire of possible futures and challenging the determinism that often frames technological progress.

This intervention aligns with and extends ongoing debates in science and technology studies, human–computer interaction, and AI ethics. Orchard (2024) demonstrates how critical design methods can foster more reflexive approaches to responsible innovation, pushing back against narrow technocratic logics. Aicardi et al. (2025) advance this further by showing how anticipation itself can be operationalized within responsible innovation frameworks, grounding abstract calls for foresight in empirical practice. Recently, Orchard (2024) offers a detailed examination of the challenges practitioners face when applying value-sensitive design in AI development, highlighting tensions between ethical aspiration and organizational constraints. Together, these works show that anticipation and value sensitivity must be treated as core design commitments rather than optional supplements. *Anticipation-Informed Design* builds on this momentum, placing design practice itself at the center and insisting that anticipatory reflection be institutionalized in the everyday work of designers rather than relegated to policymakers or external ethicists.

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The methodological range of the book is another strength. It presents a diverse toolkit for practicing anticipation, including scenario building, speculative prototyping, participatory workshops, and the use of narrative fictions to provoke reflection. What distinguishes anticipation-informed design from adjacent approaches is its insistence that these practices not be treated as temporary supplements but as integral to design itself. This resonates with Michael's (2017) reflections on speculative design as a mode of experimenting with futures, and with Metcalf et al.'s (2021) critiques of ethics washing, which call for methods that engage substantively with the politics of technological development. By insisting on anticipation as a mainstream practice, the book contributes concrete pathways for embedding responsibility into design institutions and organizational strategies.

The ethical and political stakes of this orientation are significant. By foregrounding responsibility for possible futures, the book challenges the assumption that technologies evolve autonomously and beyond human control. It emphasizes instead the situated agency of designers, policymakers, and publics in shaping the trajectories of AI and digital systems. This perspective is aligned with Jasanoff and Kim's (2015) concept of sociotechnical imaginaries, which shows how collective visions of the future guide scientific and technological projects. Anticipation-informed design makes such imaginaries explicit and open to contestation, underscoring that futures are not given but made, and that design is one of the primary arenas where this making occurs.

The book opens critical pathways, though some dimensions could be expanded or deepened. By ambitiously linking anticipation to ethics, governance, and practice, it sometimes risks breadth over depth. Certain sections, particularly those dealing with regulatory frameworks and institutional governance, could have benefited from more detailed analysis of specific mechanisms, such as algorithmic impact assessments or transparency standards. Another area lies in the challenge of scale. While participatory anticipation is laudable, the book does not fully grapple with how such practices can be embedded in large organizations where timelines are compressed and power unevenly distributed. How can anticipatory design become more than a small experimental workshop when confronted with the demands of global firms operating under market imperatives? These are questions that remain open.

A further issue is the assumption that anticipation is inherently beneficial. Anticipatory practices can be co-opted or ritualized, becoming symbolic performances that lend legitimacy without generating real reflexivity. This risk is well documented in critiques of corporate responsibility frameworks and ethics initiatives, where foresight exercises sometimes serve to protect reputations rather than transform practice. While the book acknowledges this danger, it could

have more critically interrogated how anticipation might be instrumentalized. Relatedly, the affective dimensions of anticipation are underexplored. Futures are not imagined only through rational deliberation but also through registers of fear, hope, and desire. Attending to these dimensions could enrich the account of how anticipation actually works in lived practice.

The implications of this book extend well beyond design theory. For practitioners, it provides concrete methods for embedding anticipation into workflows, organizational routines, and institutional practices, showing how design can be reoriented toward long-term responsibility without sacrificing creativity. For policymakers, it highlights the importance of developing governance frameworks that enable and reward anticipatory practices rather than merely enforcing compliance after harms occur. For scholars, it bridges normative theories of responsibility with the practical realities of design, opening new avenues for interdisciplinary research across science and technology studies, design research, and AI ethics. At a time when algorithmic systems increasingly shape cultural and political life, the book underscores that anticipation is not just a design philosophy but a democratic imperative, pointing toward futures where technology development remains accountable to society.

While the review highlights *Anticipation-Informed Design* as a theoretical and normative intervention, it should note that the book is also anchored in its pedagogical context. Originating in a workshop at the Design Academy Eindhoven, the book integrates raw student projects and collaborative explorations alongside Nadin's conceptual framing. This makes the text less a polished theoretical treatise and more a hybrid of practice-based experimentation, critical reflection, and design education. Far from diminishing its value, this hybridity underscores the book's commitment to showing anticipation in action, not only as a set of abstract principles but as a lived practice of learning, experimentation, and collective inquiry. Readers should therefore approach the book not as a final word on anticipation-informed design but as an invitation into an evolving practice that bridges design pedagogy, ethics, and futures thinking.

Author contributions The first author contributed to the discussion, writing, and formation of ideas. The second author contributed to the writing and literature review. All authors reviewed and approved the final manuscript.

Data availability No datasets were generated or analysed during the current study.

Declarations

Competing interests The authors declare no competing interests.

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