

MICHAEL MODARELLI¹

Jill Walker Rettberg

MACHINE VISION:
HOW ALGORITHMS
ARE CHANGING
THE WAY WE SEE
THE WORLD

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In an era where TikTok filters reshape our faces and surveillance cameras track our movements, Jill Walker Rettberg's *Machine Vision: How Algorithms are Changing the Way We See the World* arrives as both a timely intervention and historical reckoning. Rettberg examines the long history of machine vision. In a study that spans from the invention of the stone mirror 8,000 years ago to the latest developments in facial recognition and augmented reality, she argues that understanding today's algorithmic vision requires excavating millennia of human efforts to augment, alter, and extend sight itself.

Rettberg, Professor of Digital Culture and Co-Director of the Center for Digital Narrative at the University of Bergen, brings formidable credentials to this ambitious project. Her previous work on digital self-representation and blogging established

¹ Michael Modarelli is Associate Professor of English at Walsh University in Ohio, where he teaches literature, film, and AI in culture.

her as a keen observer of how technologies shape identity and social interaction.² Here, she deploys what she terms “ethnographic and critical media studies approaches alongside personal reflections” to create a work that is simultaneously scholarly rigorous and refreshingly accessible.

The book’s central theoretical framework draws heavily on assemblage theory, particularly the work of Gilles Deleuze, Félix Guattari, and Donna J. Haraway.³ Rettberg seeks to move beyond a human-centric understanding of technologies as passive tools; thus, she describes machine vision technologies as “companions” within “more-than-human assemblages.”⁴ This posthumanist approach allows her to sidestep both techno-deterministic fears and naive techno-optimism, while instead exploring the complex entanglements between humans, machines, and social contexts that shape how we see and are seen.

One of the book’s greatest strengths lies in its rich tapestry of examples spanning high art, popular culture, and everyday experience. Rettberg analyzes everything from Soviet filmmaker Dziga Vertov’s experimental *Kino-Eye* (1924) to Janelle Monáe’s science fiction film *Dirty Computer* (2018). Her analysis demonstrates how machine vision can have very different cultural impacts. Further, this type of exploration fosters both sympathy and community as well as anxiety and fear. Her discussion of surveillance technologies is particularly nuanced, contrasting the hyper-surveillance of Amazon’s “staffless” Fresh stores—where cameras, weight sensors, and computer vision track every movement and automatically charge customers—with the trust-based systems of unstaffed rural supermarkets in Norway, which rely on minimal monitoring and assume that customers will weigh and pay for their groceries honestly. By placing these two models side by side, Rettberg illustrates how identical technologies can function very differently depending on local cultural norms, expectations of trust, and the social infrastructures surrounding them.

The book’s most compelling passages emerge when Rettberg weaves together personal narrative and theoretical analysis. Her own transition from a “naive outsider who blithely took public transport and walked after dark” while living in Oak Park, Illinois, reflects how fear and embodied experience shape our relationship to

² Rettberg’s earlier scholarship focuses on digital self-representation and online identity formation. Her book *Bloggging* (Cambridge: Polity Press, 2014) offers a foundational analysis of how digital platforms shape narrative, self-presentation, and community, and she has published widely on visual self-representation, selfies, and digital narrative forms. This body of work provides the intellectual grounding for her turn toward machine vision and its impact on contemporary modes of seeing.

³ Deleuze and Guattari develop the concept of assemblage (*agencement*) most fully in *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), where assemblages are understood as provisional, heterogeneous constellations of bodies, practices, and relations. While Haraway is not typically framed as an assemblage theorist, Rettberg draws on her related work on “multispecies entanglements” and “companion species,” particularly *When Species Meet* (Minneapolis: University of Minnesota Press, 2008) and *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), which similarly emphasize relational, more-than-human modes of being.

⁴ Rettberg, *Machine Vision*, 27.

surveillance technologies.⁵ This autoethnographic approach, while occasionally criticized by some reviewers as “too personal and anecdotal,” actually serves as the book’s secret weapon—it grounds abstract theoretical discussions in lived experience.

Equally fascinating is Rettberg’s analysis of her family’s robot vacuum cleaner, Alfred, as part of a domestic assemblage. This case study shows how being part of the Alfred assemblage allows for “more-than-human” ways of seeing and accessing more-than-human truths about the family’s private home and life. Such examples demonstrate Rettberg’s skill in finding the profound within the mundane, revealing how machine vision technologies are already deeply embedded in intimate spaces of daily life.

The book also excels in its treatment of artistic and activist responses to machine vision. Rettberg explores works by Joy Buolamwini and others who have exposed racial bias in facial recognition systems. Included, as well, are science fiction narratives that imagine alternative futures for human-machine relationships. Her discussion of the type of “trickster heroes” in science fiction who use cunning rather than force to evade technological surveillance, such as Katniss Everdeen in *The Hunger Games*, suggest possibilities for resistance and agency within algorithmic systems.

However, the book is not without limitations. As reviewer Lea Laura Michelsen notes, despite its posthumanist theoretical framework, the book maintains a distinctly human-centric focus, with all chapter titles emphasizing human vision and how humans see with machines.⁶ While Rettberg justifies this by noting that she writes as a human for other humans, some readers may find this approach insufficiently radical for a work grounded in posthumanist theory. Additionally, while the book’s accessible style makes complex theory digestible for general readers, academic specialists might wish for more sustained engagement with recent developments in critical algorithm studies or science and technology studies. The book sometimes feels more like an introduction to machine vision than a cutting-edge contribution to the field.

Machine Vision has received significant recognition, being named one of *Nature’s* five “best science picks” in January 2024, and critical reception has been largely positive. It succeeds admirably in its primary goal of providing a humanistic introduction to one of the defining technologies of our time. Rettberg’s greatest achievement here is demonstrating that machine vision is neither purely technical nor purely social, but rather emerges from complex assemblages of humans, algorithms, cultural contexts, and material infrastructures. For readers seeking to understand how algorithms are indeed changing the way we see the world—and how we might envision alternative futures for human-machine collaboration—this book offers an essential and engaging roadmap.

⁵ Jill Walker Rettberg, “My book on Machine Vision is out!,” *Jilltxt*, October 5, 2023, <https://jilltxt.net/my-book-on-machine-vision-is-out/>.

⁶ Lea Laura N. Michelsen, “Who Sees with Machines? A Review of Jill Walker Rettberg’s (Perhaps Not So) Posthuman Book on Machine Vision,” *Electronic Book Review*, November 3, 2024.

In our current moment of anxiety about artificial intelligence and surveillance capitalism, Rettberg's newest work provides something increasingly rare: nuanced analysis that acknowledges real dangers while maintaining space for agency, resistance, and hope. The question is not whether we will live with machine vision, but how we will choose to assemble ourselves with it. ▣