Hackers and Coders versus Viewers: The Stakes of Photography in an Era of Image Massification

Tomáš Dvořák and Jussi Parikka, eds., *Photography Off the Scale: Technologies and Theories of the Mass Image* (Edinburgh: Edinburgh University Press, 2021).

The book *Photography Off the Scale: Technologies and Theories of the Mass Image* is, first of all, about quantities. Those with memories of pre-smartphone years may suspect that the images of this world have increased in number. Perhaps fewer, however, are aware of just how much. Among the first things we learn in this book is that, in 2018, over 30 million images were uploaded to Twitter, 52 million to Instagram, and 350 million to Facebook — daily (25). For someone who makes a handful of uploads a week, this was news. Who could possibly be looking at them? It turns out, no one. Even if everyone on Earth spent eight hours scrolling through images, they would not all get seen (25). The quantities are just too large. This book claims that the now unconscionable scale at which images circulate and are produced is because they are actually no longer tailored to the human. Interrogating an optics of "eccentric metrics" (Dvořák), the book tackles one of the liveliest issues in image studies, media studies, and art history today — machine vision, or the vision of the human eye as it is extended by technical apparatuses. It is this seeing "by other means" that the book alleges has thrown the number of images "off the scale."

Images increasingly make our bodies, society, and planet available to mechanized forms of observation. Medical scanning technologies probe our anatomical insides.[1] Algorithms read faces for emotions.[2] Satellites map geodynamics.[3] Underground observatories track exploding stars.[4] A telescope recently photographed a black hole.[5] Machines have extended our observational capacities into the infinitesimally near and far not just by converting different types of energy into detectable light signals, but also by expanding the scale at which these images are being produced. Image-making processes must be automated in order to ensure continuity of observation. Operating under the totalizing principle of surveillance (an interrupted CCTV image stream has no value), the unblinking eye of today's

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1) Lisa Cartwright, *Screening the Body Tracing Medicine's Visual Culture* (Minneapolis: University of Minnesota Press, 1995).
2) Roland Meyer, *Gesichtserkennung: Vernetzte Bilder, Körperlose Masken* (Berlin: Klaus Wagenbach, 2021).
3) Hito Steyerl, "In Free Fall: A Thought Experiment on Vertical Perspective," *E-Flux*, no. 24 (2011), accessed September 1, 2021, https://www.e-flux.com/journal/24/67860/in-free-fall-a-thought-experiment-on-vertical-perspective/.
4) Katarina Fritsch et al., *Andreas Gursky* (London: Hayward Gallery Publishing, 2018).
5) See, for example, the documentary film *The Edge of All We Know* (Peter Galison, 2020).

"imaging" technologies knows no rest. Nonetheless, in aiming for total reconstructions of the world, the world is precisely what these images threaten to eclipse.

The second set of issues concerning images "off the scale" relates to what it means when "the quantity of images becomes their new quality," as Dvořák puts it (43). It is not clear to all involved that the object of machine vision continues to be an image. The imaging technologies in self-driving cars, as Jussi Parikka reminds us, model, map, and navigate the urban landscape by sending out pulses of light and sound (Figures 10.4–6 in the book). Resulting from millions of directed light pulses emitted, returned, recorded, and modeled per second, the eerie landscapes generated by radar-based technologies meticulously replicate a world for purposes that might have more in common with sensing or signaling than the genealogies of seeing involving cameras.

And yet, despite the rhetoric of anti-retinal blindness, what we are presented with in Parikka's chapter (and essentially all the others) is still… images. This book is, therefore, full of — productive — contradictions. Starting with its upfront dedication to *photography*, a field of image-study with a particularly lengthy and venerable tradition and one that is somewhat indelibly associated with the structural-technical properties of cameras, devices of the lenticular variety. The book holds true to this commitment throughout, assembling the names of classic photo historians, theorists, critics, and practitioners on its pages. Rather than guide the reader in the direction of uncharted Elysian Fields, the collection follows the hard-won media-archaeological wisdom of traveling into new "scales" with its face turned toward the ruins of visual media. To discuss technologies no longer modeled on the human eye as "photographic" is strategic, therefore, as it recognizes the critical role that the image may still potentially play in rendering the ongoing environmental, biopolitical, psychosocial, and ethical catastrophe at a humanly intelligible scale.

An example of the photographic past creating opportunities for our sense of measure being exceeded and re-scaled at the same time is Annebella Pollen's study of the historic photographic format of the lantern slide. Slides here demonstrate one of the central claims of the book: that photography's coincidence with the rise of consumer capitalism means that the issue of scale, as well as related concepts of mass production, reproduction, and disposability, are innate to it. Massive collections of slides that now have a second life as installation art bear witness — at a scale that remains empirically appreciable — to photography's potential for excess or abundance. Nevertheless, they also foreground the essential part in this excess or abundance played by operations of image cataloging and management. Stacked against the walls, across tables, or dumped across the gallery floor, these slide collections are missing the central bureaucratic-clerical-statistical component that once ensured their use-value, which was not the camera but the filing cabinet, as the photography historian Allan Sekula once noted.[6] These images make abundantly apparent the chaos latent in any image collection and the critical role of operational infrastructures in keeping it at bay.

The inaccessible nature of digital image infrastructure and machinic image production appears nowhere more clearly stated than in Sean Cubitt's "mass image" hypothesis. The mass image hypothesis understands the object of machine vision to be something of a moving target. The mass image is the unique result of an image search whose results will appear on the basis of all the information (images, sites, reactions, and metadata) constituting a given user's online profile at a given point in time. This "image" "has no center, its dynamic topology has no fixity and no focus because it is not primarily visual (or in any humanly recognizable sense perceptual)," Cubitt writes (30). However, the mass image's

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6)   Allan Sekula, "The Body and the Archive," *October* 39 (1986), 16.

definition as a data aggregate also means that the user remains involved in its production with every click, like, or search. Rather than being beyond the reach of the human, image production has arguably never been more dependent on us. The novelty of the mass image lies in the fact that we contribute our share of labor without either compensation or awareness.

In her study, Michelle Henning focuses on the affect whose investment in images is the precondition to sustaining this technical assemblage of human and nonhuman. She examines a range of images used in developing sentiment analysis and mood tracking, from Hugo Ball's design of the smiley face in the 1960s to digital emojis. Henning contextualizes what she calls "feeling images" within photography's historic leveraging of affect for purposes of ensuring its mass appeal and emotional "contagion" (90). She argues that this preoccupation with affect genders photography's claim of universal transparency, communicability, and sociability in a problematic fashion.

Andrew Fisher elaborates on this call for a new sensibility of measure in light of the recent attainment of excessive scales of image production. For him, photography's excessive scale impinges on its promise of rendering the world sensible and thus shareable. Fisher draws on the philosophical work of Jean-Luc Nancy to reimagine different modes of photographic enunciation, or being-with-others, as "scaled." In addition to the "I" that announces its presence by pressing the camera's shutter and the "you" that appears on the scene in the act of being photographed, the "we" involves a notional coincidence between "I" and "you" in an identity that is imposed from without. Fisher takes Nancy's proposal of a "we others" (*nous autres*), instead, to exemplify a "coexistence without coincidence" that would be necessary to establish a new topography of (scaled) relations (73).

The subject of media has been varyingly conceptualized as displaced, pacified, and harvested into a "data subject," while the technologies of mass image production and distribution are perceived as forming a single, all-encompassing, impenetrable, and perfectible artifice. While there are good reasons for this, part of what this book does is move past this duality. One way it does so is through its new typology of images forms. This is particularly fruitful in offering a critique of two other, extremely important image types it arguably inherits: Harun Farocki's concept of *operational images*, that is, images whose purpose is technical,[7] and Trevor Paglen's notion of *seeing machines,* or technologies of observation whose resulting images are not meant to be seen by the human eye.[8]

In their chapter, Lukáš Likavčan and Paul Heinicke take up Harun Farocki's conceptualization of the operational image as observing the world and turning it into data (217). The term is discussed in relation to the case of a diagram of cropmarks in a field in Wales such as was revealed by satellite imaging in 2018 after a heatwave (Fig. 11.3) — an example of the human-made "knowledge infrastructure" of sensing and modeling the Earth, their more general subject of study. The enunciative position afforded by the image is clearly nonhuman, as these cropmarks were not observed from a vantage point far removed from that of any earthbound traveler. In its production of data, it seems to bear out the simulacral logic of the operational image. However, given that the climate crisis is human-made, insulating this image from all human agency is also a mistake, as it would also be in the case of images of hurricanes, heatwaves, droughts, sea level rises, loss of wildlife, or the acidification of oceans. Combining the artist Dietmar Offenhuber's notion of a "language of the phenomena themselves" with what the tech industry calls "data visualization," Likavčan and Heinicker propose "autographic visualisa-

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7) *Eye/Machine III* (Harun Farocki, 2003); Harun Farocki, "Transversal Influences," *Trafic* 43, no. 1 (2002), 34–35.
8) Trevor Paglen, "'Is Photography Over,'" fotomuseum Winterthur, March 13, 2014, accessed September 1, 2021, https://www.fotomuseum.ch/de/2014/03/03/is-photography-over/.

tion," or image-making that "isolates some qualities of the phenomenon itself and uses them as traces of the occurrence of the given phenomenon or process" (217). By adopting the notion of visualization, they shift the point of origin of the image from the machine to the phenomena, and thus recognize their share (and, indirectly, their disruption by humans) in the process of "presenting [themselves]" (218).

The essay by Joanna Zylinska that follows continues this vein of critique. Zylinska's subject is also premised on the nonhuman nature of photographs, or photographs "not *of, by* or *for* the human" (238). However, she stops short of describing these images as falling outside the spectrum of human visibility, stating her differences with, this time, the notion of machine vision as articulated by artist Trevor Paglen, in suggesting this falls short of the "human responsibility [borne out by the image] and the possibilities of its enactment" (239). "While I acknowledge that both seeing and acting will be undertaken by human and nonhuman agents," she writes, "the reflective process on what constitutes goodness and what forms it may take […] will be uniquely human" (238). Using an online labor marketplace run by Amazon called Mechanical Turk, Zylinska employed 100 contractual workers to create an image composite out of photographs taken "from the window of the room they were in" (242). Using an online labor marketplace run by Amazon named after an early chess-playing automaton, Zylinska discovers no sophisticated contraption inside but a human chess master, only a systematic self-effacement that is needed "to power the illusion of a chess-playing machine" (245). So much for seeing machines being autonomous.

When discussing machine-vision-based image types, this shift may appear slight, essentially amounting to a choice of emphasis among its two constitutive aspects, the technical and material practices versus their social and human context. Nevertheless, greater consideration of the latter could have significant consequences; namely, the contemplation of a politics of such images, a call that is once again made in the exchange reproduced here between early photo historian Geoffrey Batchen and contemporary photographer Joan Fontcuberta. While the networked digital image's rhetoric of apocalypse can be correlated with the colonization of everyday life by machine learning and artificial intelligence, placing the blame on the side of the machine is arguably contributing to the inevitability of this image-apocalypse.

One potentially productive reading of the book assembles the many moments when its authors probe the networked image for its systematic vulnerabilities. Obsolescence seems an important one, as the scaled nature of the concept does not chart photography's dramatic growth but its decline. As Fontcuberta reminds us, digitalization may have accelerated image production, but it also perpetuated image loss. Describing her process of forensic analysis as "prowling around photo libraries and archives in search of patients in a state of trauma," Fontcuberta sees herself diagnosing and rescuing "sick images" (254). Her location of authorship in appropriation and reuse allows her to identify not with the making but the *un*-making of images, a statement that also resonates with Zylinska's notion of "undigital photography" as a reminder of the inherent openness of the digital image to manipulation and practices of post-production. It also recalls Tereza Stejskalová's study of the idea of a "broken machine" in Alexandria Ocasio-Cortez's embrace of the live-stream format on Instagram and the feminist resilience and empathy implied in the ambivalence and impoverishment — due to patchy network connectivity — to which her "broken" image exposes her (106). In the era of "image massification" (Batchen and Fontcuberta), discovering the inherent instability of the mass image means gaining ground against the machines.

Two potentially surprising conclusions transpire. First, that, contrary to belief, close study will reveal that no two mechanically produced copies of an image are identical, which Josef Ledvina demon-

strates through traces of image burn-in, retention, and "ghosts" on the red monochrome image reproduced on six technically identical television monitors (Fig. 9.2). Errors are as ephemeral as they are uniquely site and context-specific, which is why the commercial standardization of analog techniques kills reproducibility's political affordances (Michal Šimůnek). And second, that to single out one image from a deluge of images can actually be strategic, in the sense described by these authors as "overcoming, countering or getting behind the ephemerality and interchangeability that governs the contemporary image environment" (161). Singularity returns to the discussion through the force of its encounter with a (distributed and networked) human viewer.

Also promising in this regard is the book's engagement with contemporary art and visual culture. An example of this are the book's illustrations, which range from charting the stark realities of inflation in a towering stack of bills next to a bundle of carrots in Venezuela of 2018 (Figs. 3.4–6) to the irony of the photograph in which the designer of the original smiley face, Harvey Ball, as he sits at his desk unsmiling (Fig. 5.1). It includes Eric Kessel's deluge of uploaded photographs in the corner of an art gallery (Fig. 1.1), the haunting beauty of a city viewed through lidar (Figs. 10.4–6), or Joan Fontcuberta's archaeological excavations (Figs. 13.1–3), among others. These illustrations bear ample visual witness to photography's continued entanglement in the issues of reproducibility, massification, and scale. Nevertheless, they also imply another, relatively recent shift in critical media studies into the spaces of art history and media archaeology.[9] Many of the images considered by the book could have been (and potentially were) displayed in galleries and museums, "white cubes" that have opened up to "black boxes."[10] This is significant, not just because the involvement of artists implies an increased accessibility of the "imaging" technologies at stake in this book, but also because of the range of cultural techniques involved, most notable being that of close looking and formal analysis. By gathering together examples of scale as both enacted and represented by images, this book opens onto a previously unimaginable horizon of possibility in which the agency possessed by a handful of hackers and coders could, through new ontologies of the image, be expanded to include the vast network of viewers.

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9) Thomas Elsaesser, "Media Archaeology as Symptom: An Epilogue," in *Film History as Media Archaeology: Tracking Digital Cinema* (Amsterdam: University of Amsterdam Press, 2015), 331–388; Eszter Polonyi, "Media Archaeology in Cinema Studies and Art History: A Response to Thomas Elsaesser's Media Archaeology as Symptom," *New Review of Film and Television Studies* 14, no. 2 (2016), 216–221.

10) Andrew V. Uroskie, *Between the Black Box and the White Cube: Expanded Cinema and Postwar Art* (Chicago: University of Chicago Press, 2014); Erika Balsom, *Exhibiting Cinema in Contemporary Art* (Amsterdam: University of Amsterdam Press, 2013); Erika Balsom, *After Uniqueness: A History of Film and Video Art in Circulation* (New York: Columbia University Press, 2017); Chrissie Iles, *Into the Light: The Projected Image in American Art, 1964–1977* (New York: Whitney Museum of American Art, 2013); Chrissie Iles, *Dreamlands: Immersive Cinema and Art, 1905–2016* (New York and New Haven: Whitney Museum of American Art and Yale University Press, 2016).

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