Hyperimage: Imaging Practices on a Larger-Than-Human Scale

Abstract

Sheung Yiu

Hyperimage is a conceptual framework I have been developing in my doctoral research in photography at Aalto University to theorize contemporary imaging practices that expand beyond the singular perspective and capturing devices. These practices include remote sensing, computer vision, and 3D computer graphics. The presentation begins with an introduction to the first-ever image taken of the massive black hole M87. Deconstructing the complex imaging process behind the historic image, the presentation marks the image as an exemplar of contemporary imaging practices emerging from the intertwined development of computation and photography. I present hypermedia and hyperobject as useful concepts to understand larger-than-human imaging practices that increasingly escape human comprehension.

Image-making is increasingly decoupled from human agency and human vision. Human agency in image-making is redistributed within the complex constellation of human and non-human agents in contemporary image practices. (Hansen, 2015; Jussi Parikka, 2023; MacKenzie & Munster, 2019; Terranova, 2004) This constellation enables nonhuman vision, a compound vision, allowing for the observation of the world from different angles, at different places, and across different times. Consequently, image-making is distributed across a network of agents. The hyper in Hyperimage addresses these imaging practices that have expanded beyond the human network and the human scale. The prefix hyper- refers to two concepts from vastly different disciplines: Hyperobject and Hypermedia.

The concept of a hyperobject comes from the philosophical framework of flat ontology in the 2000s and 2010s. First introduced by Timothy Morton in 2013, a hyperobject refers to entities vastly distributed in both space and time relative to humans. (Morton, 2013) Their scale makes their causality humanly incomprehensible. Examples of hyperobjects include climate change and radioactive materials, which profoundly impact our world, yet humans can only experience them vicariously when they manifest as humanly-perceivable events. I borrow "hyper-" in hyperobject to denote the scale of contemporary imaging practices.

Hypermedia is a concept deeply entrenched in the development of the Internet. Ted Nelson first coined the term hypermedia in 1965 in a paper on complex information processing. (Nelson, 1965) The paper detailed a dynamic indexing system he called an Evolutionary File Structure (ELF). The system is a blueprint for the modern Internet, consisting of hyperlinks forming an effective organization framework for information. Contemporary imaging practices rely on metadata, neural networks, and other forms of hypermedia to organize and manipulate images on a large scale. The "hyper" in hypermedia emphasizes the role of the network and Daniel Rubinstein and Katrina Sluis's concept of Networked Image in facilitating the use of multiple perspectives across time and space in capturing certain aspects of realities beyond human limits (Rubinstein & Sluis, 2008).

The introduction of larger-than-human imaging practices is followed by a critical inquiry into the visualities they create. (Cubitt, 2023) Hyperimage describes unique larger-than-human visualities afforded by new technologies. However, the emphasis on computation should not be seen as an endorsement for the relentless development of more sophisticated seeing machines and deep learning models. Compound vision is entangled with human labor exploitation, data extraction, and questionable AI ethics. (Buolamwini & Gebru, 2018;

Paglen, 2016) Furthermore, seeing on a larger scale does not inherently equate to a superior or clearer vision; it signifies a different perspective. Large scale reveals patterns; small scale reveals history and depth. (DiCaglio, 2021; Horton, 2020)

Seeing on a large scale introduces its own set of limitations, such as apophenia and hallucination. (Steyerl, 2016) Algorithmic biases in computer vision challenge our assumptions about Big Data and the underlying belief that more data creates an objective and reliable representation of our world—Dataism. (Brooks, 2013) Lastly, the disproportionate emphasis on large-scale operations and the constant pursuit of business scalability create an energy-hungry behemoth that ceaselessly extracts monetary value from data, devouring natural resources and human labor along the way—data extractionism.

The presentation concludes with an introduction to the Hyperimage Atlas, an online database of literature, artworks, and visual materials for a posthuman photography theory in the algorithmic age. (Yiu, 2022) The aim of the atlas is to capture the fast development of imaging practices and photographic discourse in a way that embodies scale and network—two important concepts in hyperimage theory. Inspired by Aby Warburg's Atlas Mnemosyne, the atlas purposefully presents artworks, artifacts, and theoretical thinking in an interdisciplinary and anachronistic order. I will present a prototype to illustrate how the atlas allows visitors to explore photography theory in a novel way. The presentation ends with a call for collaboration to enrich the database.

Keywords

Hyperimage, Hypermedia, Scale, Network, Algorithmic Images

References

Brooks, D. (2013, February 4). Opinion | The Philosophy of Data. *The New York Times*.

https://www.nytimes.com/2013/02/05/opinion/brooks-the-philosophy-of-data.html

Buolamwini, J., & Gebru, T. (2018). *Gender Shades: Intersectional Accuracy Disparities in*

Commercial Gender Classification. 15.

Cubitt, S. (2023). *TRUTH: Aesthetic politics*. GOLDSMITH PR LTD.

DiCaglio, J. (2021). *Scale theory: A nondisciplinary inquiry*. University of Minnesota Press.

Hansen, M. B. N. (2015). *Feed-forward: On the future of twenty-first-century media*.

University of Chicago Press.

Horton, Z. K. (2020). *The cosmic zoom: Scale, knowledge, and mediation*. The University of

Chicago Press.

Jussi Parikka. (2023). *Operational Images: Between Light and Data - Journal #133 February*

2023 - e-flux.

https://www.e-flux.com/journal/133/515812/operational-images-between-light-and-da

ta/

MacKenzie, A., & Munster, A. (2019). Platform Seeing: Image Ensembles and Their

Invisualities. *Theory, Culture & Society*, *36*(5), 3–22.

https://doi.org/10.1177/0263276419847508

Morton, T. (2013). *Hyperobjects: Philosophy and ecology after the end of the world*.

University of Minnesota Press.

Nelson, T. H. (1965). Complex information processing: A file structure for the complex, the

changing and the indeterminate. *Proceedings of the 1965 20th National Conference*

On -, 84–100. https://doi.org/10.1145/800197.806036

Paglen, T. (2016, December 8). Invisible Images (Your Pictures Are Looking at You). *The*

New Inquiry.

https://thenewinquiry.com/invisible-images-your-pictures-are-looking-at-you/

Rubinstein, D., & Sluis, K. (2008). A Life More Photographic: Mapping the networked

image. *Photographies*, *1*(1), 9–28. https://doi.org/10.1080/17540760701785842

Steyerl, H. (2016). *A Sea of Data: Apophenia and Pattern (Mis-)Recognition*.

https://www.e-flux.com/journal/72/60480/a-sea-of-data-apophenia-and-pattern-mis-re

cognition/

Terranova, T. (2004). *Network culture: Politics for the information age*. Pluto Press.

Yiu, S. (2022). Hyperimage Index: Rendering Research on Algorithmic Image Systems. *A*

Peer-Reviewed Journal About, *11*(1), 66–81.

https://doi.org/10.7146/aprja.v11i1.134309

Bio

Sheung Yiu (HK/FI) is a Hong-Kong-born, image-centered artist and researcher, based in Helsinki. His artwork explores the act of seeing through algorithmic image systems and sense-making through networks of images. His research interests concern the increasing complexity of algorithmic image systems in contemporary digital culture. He looks at photography through the lens of new media, scales, and network thinking; He ponders how the posthuman cyborg vision and the technology that produces it transform ways of seeing and knowledge-making. Adopting multi-disciplinary collaboration as a mode of research, his works examine the poetics and politics of algorithmic image systems, such as computer vision, computer graphics, and remote sensing, to understand how to see something where there is nothing, how to digitize light, and how vision becomes predictions. His work takes the form of photography, videos, photo-objects, exhibition installations, and bookmaking.