



The Photo is the Metadata

ALI FESER

ABOVE
Leopold Godowsky Jr. and Leopold Mannes,
ca. 1950s, Science and Society Picture Library/
Getty Images

Man and God weren't scientists by training. They were professional musicians (piano, violin) and amateur chemists (amateur, from *amour*, one who loves or has a taste for anything).¹ They started developing the process that would become Kodachrome film in 1917, back when they were still in high school, still Leopold and Leopold, Mannes and Godowsky.

They had gone down to Forty-Fourth Street to see *Our Navy*, an educational film shot at the Naval Academy in Annapolis. Advertisements had promised that the film would be "projected in natural colors,"² but to Man and God, the spectrum on the screen "struck...as unreal": too "orange-red," too "blue-green."³ With the audacity of adolescence, they swore they could do better. They began to experiment, with their parents' second bathrooms serving

as laboratory and darkroom. They kept in touch while in college on opposite coasts and mailed reports across the Atlantic while Mannes toured Italy on a Guggenheim Fellowship. Once both back in New York City, they graduated from their parents' apartments to an old dentist's office and finally a suite at the Almanac Hotel, where bellhops filled in for lab assistants.⁴

At first, Man and God simply aimed to improve the additive color⁵ system used to make *Our Navy*. But disappointed with their initial results, Man and God began to experiment with "subtractive color," first hypothesized by German chemist Rudolf Fischer in 1912. The subtractive system aimed to produce color in the film itself, through chemical rather than optical means. This was still very much a *theory* in the 1920s, as the developing process for subtractive

film required the use of special chemical couplers that did not yet exist. But Mannes had “a knack for running into people,”⁶ and he managed to broker an introduction to Dr. Mees, the director of research and development at Eastman Kodak. Mees was impressed enough to offer the boys research materials in exchange for periodic updates on their progress.

Mees had promised Man and God salaries of \$7,500; a \$30,000 bonus to be split between them; and plenty of time for music. But their piano and violin would quickly gather dust, as Man and God soon realized that there was an urgency to their hiring. It was the Depression. Film was a luxury, not a necessity, and corporate sales were down. Color film was supposed to be a way to get consumers dreaming again, and if Man and God didn’t show results quickly, their positions risked being eliminated in budget cuts.

Mees’s chemists managed to invent the chemical coupler they needed, but it was up to Man and God to make the developing process manageable. They needed to simplify the process so that technicians at Kodak plants around the world could replicate their procedures. This meant that Man

and God needed to speed up the entire developing process, while simultaneously slowing down the individual chemical reactions that create color in the emulsion, bring the image to the surface, and “fix” it in place.

At first, the chemical reactions occurred in intervals as small as a second and a half. The process was so sensitive that the slightest variations in time would spoil the image. A stopwatch wasn’t accurate enough, and besides, even the green dial of a radium wristwatch would excite the molecules in the emulsion and cause them to react. Color film had to be developed in complete darkness.

Instead of a watch, Man and God kept time with breath.

They whistled while they worked, dwarfs in a jewel mine, wringing color from coal tar.⁷ They timed their procedures to the final movement of Brahms’s Symphony in C Minor.⁸

It’s cinematic music, verging wordlessly on narrative. It could be the soundtrack to a Technicolor epic—strings heave and timpani charges. When they break into sonata, it’s like a mountain sunrise at the start of a third act, the hero rising for his glorious denouement.

Music organized the temporality of the chemical reactions, and Man and God



RIGHT

Where light strikes the surface of the film, the silver halide crystals dissociate. Electrons shoot off the bromide salts. Loose and cruising through the emulsion, they gather at aberrations in the gelatin and, gathering a positive charge, pull in the silver, now gone ionic. Attraction, repulsion, silver to electron, electron from bromide. The molecules rearrange in the pattern of the impact of light. From “Silver developing through an electron microscope,” 1945, Box 199, Folder 2, Kodak Historical Collection #003, Image courtesy of Kodak



LEFT

This photograph was made by Hymen Meisel (1898–1985), an employee at Kodak's Camera Works factory, a serious amateur, and a member of the Kodak Camera Club. Image provided by and courtesy of the Visual Studies Workshop, Rochester, NY

reorganized our senses. They transposed the crests and flourishes of Brahms's Romanticism into the fantasy palette of Kodak film.

Man and God would have played the parts of flute and oboe in duet, as they skirted each other in the dark, trays of developer and fix sloshing to a tempo of two beats per second.

This is the secret rhythm of industrial production, its time signature in every photograph.

Kodachrome began with pine trees and cotton. Workers at Eastman Chemical in Tennessee bleached, purified, and combined plant matter with acetic acid to make cellulose acetate. They precipitated the cellulose acetate into small, white pellets and shipped them to Rochester in railcars. Workers at Kodak Park dissolved the pellets in a solvent called methylene chloride to render the cellulose acetate into the golden,

honey-like substance that Kodak called dope. The dope would be piped onto the surface of a giant, steel casting wheel. As the wheel turned, the solvent would evaporate, liquid into air; the dope dried to film base; and emulsions—the photosensitive part of film that reacts to light and forms an image—were sprayed on the surface of film.

Early black-and-white film needed only one layer of silver and salt suspended in gelatin. Man and God's color film needed three, each sensitized to a different part of the spectrum. The emulsions were applied in sequence as the film base moved along machinery that measured a mile long. Later on, when the film is exposed to light through the lens of a camera, a latent image is recorded on each layer of emulsion.

Kodachrome film had to be developed three times, once for each layer. In addition to the usual photo developer which renders

visible the latent image, Kodachrome developer contained couplers that when added to the emulsion, reacted with the oxidation product of the developer to form a dye right there in the film in the appropriate layer. It's like a chemical factory within a chemical factory.

When white light is projected through the developed film, it is separated into three parts of the spectrum. The top layer absorbs blue light, the middle layer green light, the bottom layer red light. What we see on-screen is the remainder. The image relies on separation.

Before Kodachrome could be introduced to the market, it had to be tested. Scientists subjected the film to rapid changes in temperature and humidity to speed up chemical time and see how the emulsions would transform and decay over the span of a human lifetime. They tweaked the formulas to keep fugitive molecules from wandering among the layers of emulsion and changing the appearance of the image. Over time, the molecules want to move, but Kodak scientists estimated they could hold the structure of the image in place for two hundred years, the colors as punchy and bright as the day they were developed.

The staff at the research labs also took the new film home with them. They tested it in front yards in KodaVista (a

working-class, company-built subdivision that bordered Kodak Park) and living rooms in Meadowbrook (a white-collar subdivision in the suburbs). Workers photographed their families, and they studied the resulting images to understand how emulsion reacted in actual use. They calibrated the dyes by comparing how the green grass and the pink skin tones of toddlers in photographs corresponded to the material existence of workers and their families.

This distribution of photographic materials to workers went beyond just product development. It also contributed to a collective identity among workers: for an annual fee of five dollars, they joined the Kodak Camera Club; they collected antique cameras; they submitted portfolios when applying for promotions. Even though labor was

compartmentalized throughout the space of the factory, employees could grasp the sum of their labor in the shared practice of photography.

Photography was central to the world that Kodak created for its employees and their families. Founded in 1880, the company functioned like a total institution and a proxy for the welfare state. In order to win workers' loyalties and prevent them from unionizing, Kodak offered excellent benefits, good pay, and the tacit promise that workers' children could also find jobs at the company, a practice that reinforced the white homogeneity of its workforce. These measures generated a shared social reality for many workers, as social welfare programs and a paternalistic ideology of the "Kodak family" shaped their life experiences

and aesthetic dispositions. Employees, in turn, applied these regimes of sensuous knowledge to the engineering of photographic technologies. They inscribed into photographic emulsions a chemical preference for white, middle-class life as the subject of the image. Through advertisements and other mass media, consumers learned to domesticate this vision of the American Dream. It became a fantasy for the "good life" and a normative template for how to see the world. Just as Man and God inscribed the Romantic swells of Brahms's symphony into the color image, Kodak's precise organization of labor and life is layered into every photograph.

Kodachrome motion picture film was patented and released to consumers in 1935. Kodachrome still film came out a year later. Advertisements celebrated the lifelike colors of the film and the longevity of the images it produced. An ad from 1937 warned consumers that their memories are only safe once preserved "in your snapshot record" where "time and change can't rob you of them." Another ad read: "These little pictures—almost as alive as the people they show—are the



LEFT

The racial and economic justice organization FIGHT—Freedom, Independence, God, Honor, Today—formed in Rochester in 1965 under the leadership of Minister Franklin Florence (right) and Saul Alinsky. At this particular protest, held at Kodak's annual shareholder meeting in 1967, FIGHT was campaigning for Kodak to commit to hiring more Black employees. From *Through Conflict to Negotiation*, directed by Bonnie Sherr Klein and Peter Pearson (Montreal: National Film Board of Canada, 1968), documentary film

connecting links between yesterday and today...today and tomorrow.”⁹ According to the copy, Kodachrome had the capacity to freeze time.

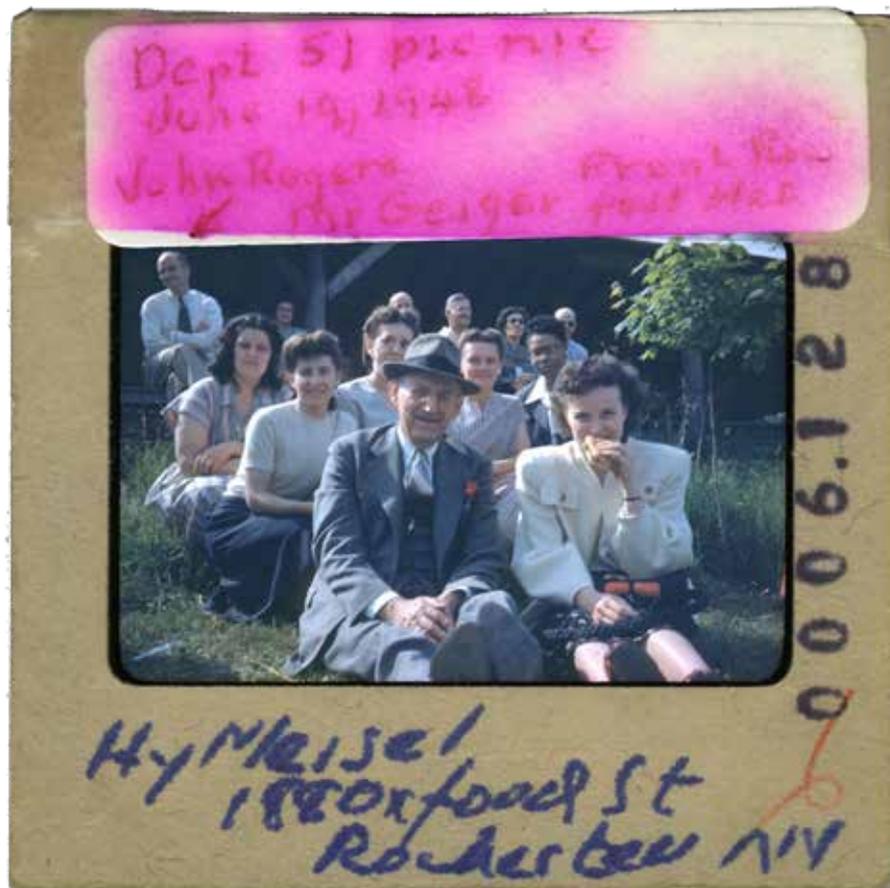
But while laboratory tests suggest that Kodachrome slides should retain their vibrancy for two hundred years, they are still sensitive to their environment. They fade faster with more light; moths and molds have a taste for the gelatin coating; higher temperatures and tropical climates excite the molecules, inciting them to wander and react.

Photographs do change over time, even if on timescales that exceed our perception. Other film stocks age more quickly. Kodak’s professional films from the 1970s yellowed within two decades; a typical, drugstore color print will fade within just one. Even black-and-white film changes. In an effect called silver mirroring, the image loses its crispness. Shapes bleed into each other and the edges become soft and dreamy.

Photographs can never be perfectly fixed because, as the advertisement says,

they are almost alive. They are dynamic, chemical things. The molecules in the emulsion are propelled, and held in place, by the force of attraction to and repulsion from other substances. They are drawn through the surface of the film; they react and recombine. In doing so, they push against structure and transform the image. The atom has that “something in its breast,” Karl Marx writes, “that can fight back and resist.”¹⁰

Karl Marx worked out his theory of human agency through this capacity of matter to resist the structure imposed on it. His doctoral dissertation, “The Difference Between the Democritean and Epicurean Philosophy of Nature,” compares two ancient Greek concepts of the atom. On the one hand, Democritus and the Stoics believed that form bears down on atoms with a gravitational force that locks substance into structure. In contrast, Epicurus believed atoms to have swerve. He thought that atoms were propelled by their attraction to and repulsion from other substances; it was the desires of the atoms that held structure together. These relations are reactive and contingent. This dynamism, Marx notes, creates the possibility for chance and change. If atoms can resist their form, then so can we. If matter can change, Marx writes, then “what is possible may also be otherwise, the opposite of what is possible is also possible.”¹¹



LEFT

Another photograph by Hymen Meisel (1898–1985), a machinist at Kodak’s Camera Works factory and a serious amateur photographer who was a member of the Kodak Camera Club, image provided by and courtesy of the Visual Studies Workshop, Rochester, NY

Kodak tried to “fix” social life, just as they had fixed the molecules in photographic emulsions. The company’s corporate archives suggest that its labor policies were intended to prevent workers from unionizing, to cultivate their loyalty to the company, and to reproduce a certain brand of white, middle-class subjectivity.

This effort went well beyond the factory walls at Kodak Park. George Eastman, the company’s founder, remade Rochester. He built parks for workers to frequent on their days off and negotiated the construction of local water and transportation infrastructure. He funded music halls, hospitals, universities, and a global network of inexpensive dental clinics. He founded what would become the United Way in his billiard room, and he lobbied both the US Congress and the League of Nations to adapt the thirteen-month calendar he had imposed at his company for the sake of easier accounting. He was trying to fix the future.

Along with John D. Rockefeller, Eastman was also a primary benefactor of the American Eugenics Society (AES). AES was a national association for research and education on eugenics; it served as a sort of clearinghouse, distributing financial support to smaller scientific research projects as well as policy research regarding sterilization laws and immigration restrictions. Eastman’s interest in eugenics is coterminal with his attempts to, as he is reported to have said, “make Rochester a place worth living in.” Kodak, with Eastman at its helm, attempted to shape the life experiences of its employees, the lived environment of Rochester, and the racial future of the nation so as to stabilize social life, thus ensuring the reproduction of Kodak’s mode of production.

Over time, though, scientists and executives learned that matter, especially human matter, tends to swerve from the structures imposed on it. Fugitive molecules wander through the layers of emulsion, degrading the image over time. In the 1960s—and chipping at the racial order of US industrial capitalism—Black Rochesterians would demand their inclusion in the workers’ utopia that Kodak offered to its employees. In the 1980s, the industrial waste that Kodak thought was buried around its factories would bubble to the surface, inciting a public health crisis in KodaVista. At the same time, global transformations in patterns of capitalist production and accumulation would make Kodak’s labor policies unsustainable. Since 1982, the company has reduced its workforce from over 62,000 employees to around 1,200, and Kodak eventually filed for Chapter 11 bankruptcy in 2012. The dream of mass industrial abundance¹² and middle class flourishing¹³ created by Kodak showed itself, in the longer run, to be exclusionary, toxic, and temporary. Its workers’ utopia went the way of old photographs.

As we pass from the analog to the digital age, we are at an urgent moment to unearth the ideologies of industrial capitalism that continue to shape our visual conventions and visions of the “good life.” The photograph is the metadata—every snapshot is an artifact of Kodak’s organization of labor and social life. The wandering molecules of wet photography are physical links to this past and ciphers for comprehending¹⁴ the long-lost ordinaries and moments of rupture concealed in the image regimes of the present.

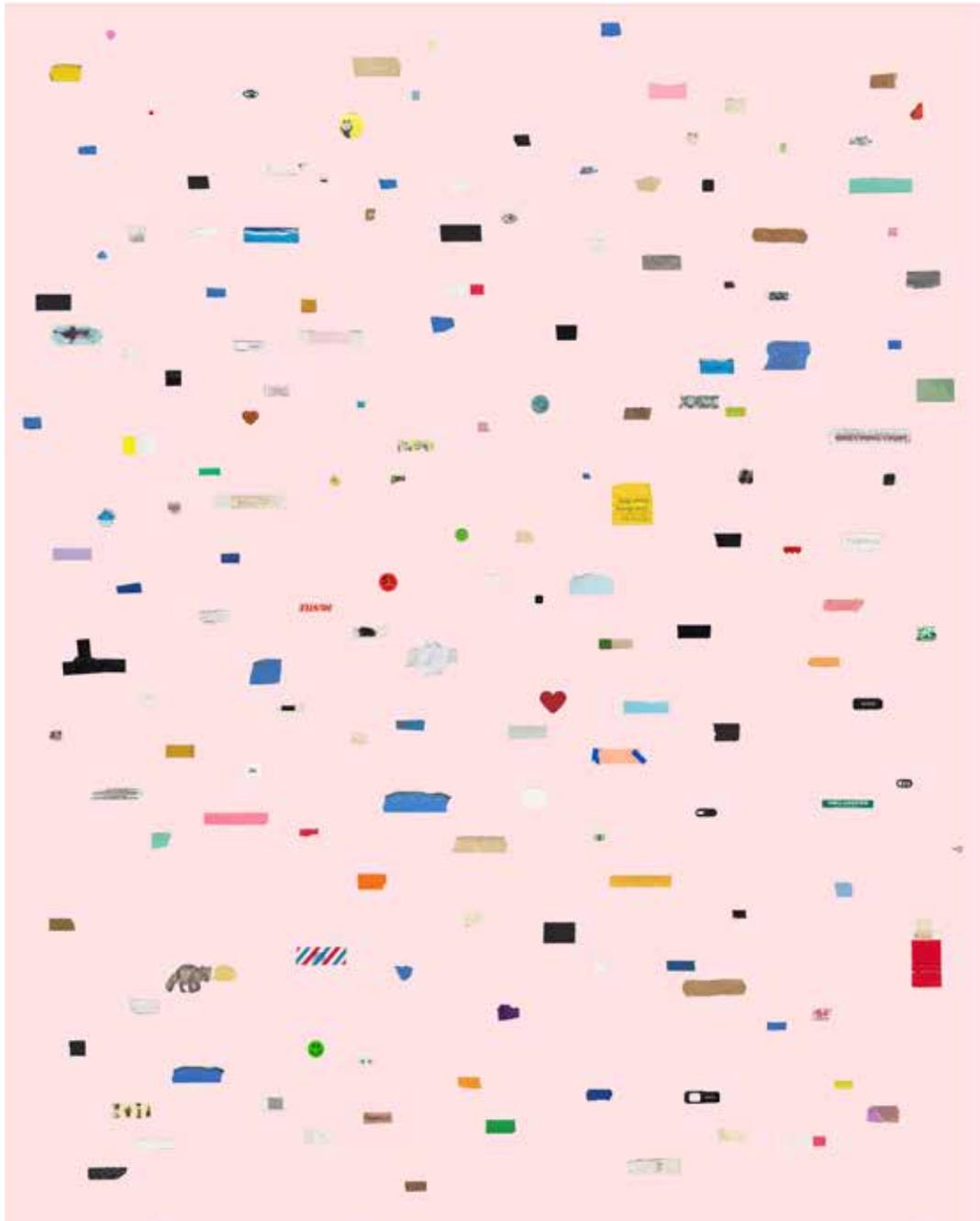
Acknowledgments

This essay is based upon research supported by the National Science Foundation under Grant Number 1559245. Participants of the Mass Culture Workshop at the University of Chicago—Allyson Nadia Field, Salomé Aguilera Skvirsky, Cameron Hu, Jesse Malmed, and Christina Rosetti—all provided invaluable commentary on earlier drafts. Thank you to Christopher Jones for editorial feedback and his critical enthusiasm for Man and God. And immense thanks to my collaborator Jason Lazarus for the gift of thinking together over the past decade about archives, images, and the world at large; his insistence on specificity; and his help in finalizing this essay.

Notes

The Photo is the Metadata

- 1 *Oxford English Dictionary Online*, s.v. "amateur," accessed November 2, 2018.
- 2 "Our Navy Synopsis," *IMDb*, accessed February 13, 2021, https://www.imdb.com/title/tt0160618/plotsummary?ref_=tt_stry_pl#synopsis.
- 3 Joseph Wechsberg, "Whistling in the Darkroom," *New Yorker*, November 10, 1956, 82.
- 4 Wechsberg, "Whistling in the Darkroom," 88.
- 5 The additive color process uses traditional black-and-white film and it achieves the appearance of color through "optical rather than chemical means." Interview with Leopold Godowsky, April 17, 1972, Box 1, Folder 4, Lawrence Bachmann Papers, Rare Books, Special Collections, and Preservation, River Campus Libraries, University of Rochester, Rochester, New York. In the Prizma Color process used to produce *Our Navy*, the film strip would be hand-tinted, with the colors of the individual frames alternating between "orange-red" and "blue-green." Flickering rapidly on screen, the colors blur together. Most often, however, additive color systems required the use of multiple projectors, each equipped with a color filter. When the multiple beams of light were superimposed on the screen, they were supposed to add up to a full-spectrum image.
- 6 Wechsberg, "Whistling in the Darkroom," 86.
- 7 Esther Leslie, *Synthetic Worlds: Nature, Art and the Chemical Industry* (London: Reaktion Books, 2005).
- 8 Wechsberg, "Whistling in the Darkroom," 90. Johannes Brahms's Symphony No. 1 in C Minor debuted in Karlsruhe, Germany, in 1876.
- 9 Kodak print advertisements, 1937, George Eastman Legacy Collection, George Eastman Museum, Rochester, New York.
- 10 Karl Marx, "Difference Between the Democritean and Epicurean Philosophy of Nature," in *Karl Marx and Frederick Engels: Collected Works*, vol. 1, *Marx: 1835–1843* (London: Lawrence & Wishart, 1975), 49.
- 11 Marx, "Difference Between the Democritean and Epicurean Philosophy of Nature," 72.
- 12 Susan Buck-Morss, *Dreamworld and Catastrophe: The Passing of Mass Utopia in East and West* (Cambridge, MA: MIT Press, 2002).
- 13 Lauren Berlant, *Cruel Optimism* (Durham: Duke University Press, 2011).
- 14 Hannah Arendt, *Origins of Totalitarianism* (New York: Harcourt, 1976), xiv.



Interview with Ali Feser and Jason Lazarus

CHRISTOPHER JONES
December 17 and 29, 2020
Conducted via Zoom

CHRISTOPHER JONES: What brought the two of you into conversation about working together? What was it about the other's work or research that interested you?

ALI FESER: We've been in conversation about this project since 2013, when I started doing research on Kodak for my dissertation. Jason was part of developing that as a text-based, scholarly work. And our conversations have directed my research in a ton of ways. In that sense, this collaboration makes perfect sense—because he's had his hands in the project and we've been talking about it for so many years.

JASON LAZARUS: As an artist trained in photography, I am always looking outside of photography and at other mediums, and then outside of art in general, as key to understanding photography, of being an artist. I don't want to "white knuckle" handed down photographic histories and to make works that are in the grooves or the contours of what have been made. Ali and I share this interdisciplinary curiosity, even though we're each rooted in our trained birthplaces. As my work has become more collaborative with other artists over the years, or publicly engaged, this makes a lot of sense.

AF: We spent a month together at a residency at the Montalvo Arts Center. I was finishing my dissertation on Kodak and Jason had come in, dove in, and was swimming in my archive. The archive was mostly things that I had scanned and collected from multiple archives in Rochester, New York. The University of Rochester has Kodak's corporate archives, which span from 1882 to the current day: tour brochures, guides to the factory, corporate memos,

annual reports, letters to shareholders, laboratory notebooks, test photographs, basically everything. The George Eastman Museum has George Eastman's personal correspondence and some of the company's early history. At the Visual Studies Workshop in Rochester, we have this giant treasure trove of slides made by Hymen Meisel, a former Kodak worker. I have hoards of newspaper clippings from the public libraries in Rochester, and just so much ephemera and visual culture from the corporation. I was also doing oral histories with retired and displaced Kodak workers, environmental scientists and activists, photographers and artists, as well as city residents in Rochester. From 2013 to 2017, I was in the field in Rochester and collecting as much as I could, from the archives and from conversations.

That process of Jason coming in and making different sense of my archives was just about the greatest gift anyone could ever give me. And then when we shifted to thinking about how to materialize this giant archive in a series of objects and images, Jason was able to take the reins in a different way.

CJ: Jason, some of the conversations that you and I had a few years ago got me thinking about the idea of "metadata" as a concept to reframe thinking about the discourse of photography. You described the inscriptions and artifacts on the backs of old snapshots and found vernacular photographs as metadata. Your anachronistic or poetic use of the term sparked me to think about metadata as a condition that has always been a part of photography, even prior to the digital era.

OPPOSITE
Jason Lazarus, *Used Webcam Covers*, 2019
to present, Image courtesy of the artist and
Andrew Rafacz Gallery

JL: When you asked me to think about considering proposing something for a metadata exhibition, it was a wonderful new thread where thought, “OK, I kind of know what metadata is. How might I fit or not fit into that?” The idea of metadata was a sort of metadata itself. I was looking at everything and asking, “Is this metadata?” Rather than in a technical sense, I was thinking about metadata poetically, maybe even using it in a way that, to other people, feels misapplied. And then, fast-forward, there’s this moment when I’m speaking with Ali, and she said, “Snapshots are metadata.” And to me, that was huge. Ali said it in a direct way.

AF: I remember what you were referring to, Jason. The snapshot is metadata of the industrial process and of Kodak’s layer management policies. How the emulsions on the film strip have been engineered and calibrated over the years in order to render certain kinds of images, certain spaces and certain subjects. This is metadata of the specific organization of labor at Kodak and of the ideologies of US industrial capitalism more generally.

I think there’s also this other material sense in which film is metadata. Film is a chemical product and synthetic chemical manufacturing historically emerged out of an attempt to make things of value from the material waste produced by burning coal. From coal waste, you make the dyes that become colors in the emulsion of Kodachrome, for example. In this sense, photography as a consumer technology is metadata of industrial production more generally.

JL: We can also get at those moments through the protest signs that are part of the installation. People either thrown off or never having access to robust social welfare programs were a hallmark of what Kodak was for so many years. All of these moments are past the golden Kodak clichés that we’re so familiar with. And there are symmetrical echoes in our digital regime.

CJ: **George Eastman introduced the consumer-friendly Kodak camera in 1888, ushering in the culture of the snapshot and creating one of the most successful corporations of the twentieth century. A twenty-first-century counterpart would be Facebook or Instagram. Increasingly, we are more perceptive about the algorithms that utilize our metadata in order to influence what we see or experience on image-based, social media platforms. It seems we are still somewhat naive about the past: the ways in which the image regime of the analog or chemical era organized labor, resources, and social relationships. Do you think this project, the *Man and God* installation, makes contemporary connections as it excavates the past?**

AF: Thinking about chemical photography helps us to understand what we mean by metadata, or what we mean about the social life of digital images. We can think about how Kodak attempted to effect a mass standardization of subjectivity in the visual sensorium. It was a standardization that was never complete. Workers don’t always do what you want them to do; chemicals move around and don’t always stay in the right layers of the emulsion. Film is this fantastically plastic and pliable media that can be pushed and pulled and made to show almost anything, but Kodak to an extent did standardize how we see the world and it charted chemical circuits of desire that we live within. We are also suggesting that subjectivity itself—and twentieth-century mass subjectivity in particular—is metadata of the industrial process.

JL: But there is also a graceful approach to metadata. Like when you pick up a camera, how could you not want to photograph your loved one with saturated color? Or to monumentalize or archive a rare moment when a family is together over the holidays? The love and the affection, and the fantasy and the desire will always be the keys to unlocking the projects of mass capital. How can you blame us? When Ali and I talked about doing this project together, we decided not to do a “criticality-only” project about Kodak. Let’s have humility and grace and acknowledge that we are all implicated in this. The criticality is not interesting without a deep appreciation for our need to express ourselves and feel connected.

CJ: I think that is an important perspective to maintain. We also have to consider one of the promises of photography itself: there is a democratic impulse, an invitation to participate. When we look critically, we can start to reveal those power structures and hierarchies, the strategies of control and social relationships we are interpellated into when we participate in snapshot culture or share images on Instagram. The invitation to participate, to self-represent oneself in the world of images, albeit never perfectly realized, is still a key appeal of the premise of photography.

AF: I think that's a good point and another example in which analog photography can help us understand the digital. We can look at Kodak absolutely as democratizing image-making. With Kodak, anyone can photograph their loved ones and share how they see the world. At the same time, Kodak achieved monopoly status by consolidating and concealing the means of production and the industrial process. Kodak detached consumers from the actual manipulation of chemicals and made everything secret. Now think of digital images. There has been this opening up of the potential to make and share images again, but how would we describe what is happening to the means of production now? What is happening to our capacity to intervene in those images now?

CJ: Let's reposition for a moment and think in terms of the site-specific installation that you're creating for the exhibition, *Man and God*. I think that a lot of visitors may be surprised to encounter this kind of work in an exhibition that is grounded in our photography program. Rather than framed photographic prints on the wall, there are objects and sculptures related to photographic materials, sounds and projections of a metronome, recordings of whistling. This is an experience that activates more of our senses than just the visual. We can call this an expanded photographic practice, but how do we help an uninitiated viewer get a purchase on what that means?

JL: It's more like inviting viewers into a storm cloud, where there's live wires or live connections that are able to be activated. I think the conditioning of how we image love or desire or landscape or ourselves is at times both democratic and restrictive. We might restrict ourselves more than we realize because we're trained by corporations and the media on what images of love look like. Whereas we feel we're expressing ourselves, perhaps we're really following a sort of emotional algorithm. As an artist, to break out of that is an instinct. If I'm looking at other work as a viewer and I'm seeing what I expect to see, I feel that maybe I'm missing something or I'm not fully engaged.

AF: This is something that Jason's been thinking about and doing for a long time—working in extra photographic registers and media. However, there is an analogous relationship between the move from vision to sound and sculpture to the way in which the ideologies and organizational forms of industrial capitalism, through Kodak's commodities, extended beyond the factory into other domains of life.

As opposed to images, within Western epistemologies of the senses, with sound one can't necessarily control hearing. We have all these different loose things coming into our ears. We might not be aware of what we're hearing, but nevertheless the song can get stuck in our heads. We find ourselves moving to rhythm and only then do we realize what we're listening to. I think by moving into these different sensory modalities, we're thinking about the depths to which Kodak rearranged our visual habitus or visual sensorium beyond what we could rationally select from an image. For me, that's partially what the music is doing. We've talked so much about the metronome and the whistling and wanting those sounds to radiate through the galleries. It's a way to spatialize the breadth of Kodak's influence and also the temporal lag of its influence. Film is obsolete, Kodak is just a shell of what it was, but it still shapes our visual habitus and our fantasies, like how sound waves continue to move and linger in space beyond one's physical encounter with the sound.

CJ: One of the core components of the *Man and God* installation is the story of Leopold Mannes and Leopold Godowsky Jr. They were two professional musicians who were also fixated on the idea of creating a stable color photographic process. They pursued this obsessively in their spare time and were ultimately hired by Kodak to work in Rochester. They ended up creating the Kodachrome process, the first stable color film for consumer use. Working in the darkroom, they found that as musicians, it felt more natural to synchronize the chemical processes by whistling Brahms together, rather than using a timer. Why was this such a compelling narrative for the project?

JL: This relates to an earlier conversation with Ali about working in the darkroom and the sounds of the darkroom. It's a funny thing because you hear soft technical noises or clunks or clicks. It is something I hadn't thought of before. In the darkroom, you're working in total darkness, so you're very on edge. If you're working in a gang darkroom, you have to call out what you are going to do so that you don't bump into each other. There is a choreography and if you don't do it, you risk bumping into someone or ruining their print. In discussing the Godowsky story with Ali, this sort of whistling was so anecdotally charming. It's hard to explain, but it's another aspect of image production that no one ever talks about.

That felt connected, the idea of whistling as a kind of symphonic relationship. These two people had a connection outside of photography that allowed them to have handrails in the darkroom. It helps me to understand photography by thinking about the darkroom as a social space and as an acoustic space.

AF: The appeal is also the delight of thinking about how visual technology is synesthetic. It's crossing through sensory regimes; with Kodachrome, music is encoded into the photographic emulsion. The symphony is cinematic, with swelling timpani, and there's a romantic, conversational duet between oboe and flute. These are rhythms of industrial production and they are wrapped into the aesthetics of Kodak film. I'm thinking of the tagline—Kodak: For the Times of Your Life. Kodak wanted consumers to document their lives like movies, as narrative through time. But we're not limited to the rhythms of the factory or the melodies of Brahms's symphony. Emulsion can always be manipulated to produce a contrapuntal articulation of this ideological formation.

CJ: The *Man and God* installation draws on so much of your research, Ali, into the Kodak corporation and its management, hiring practices, and labor relations—even the impact of chemical pollutants on the environment. All of these political and structural issues had a far-reaching impact. But you've also included material from a found archive of personal

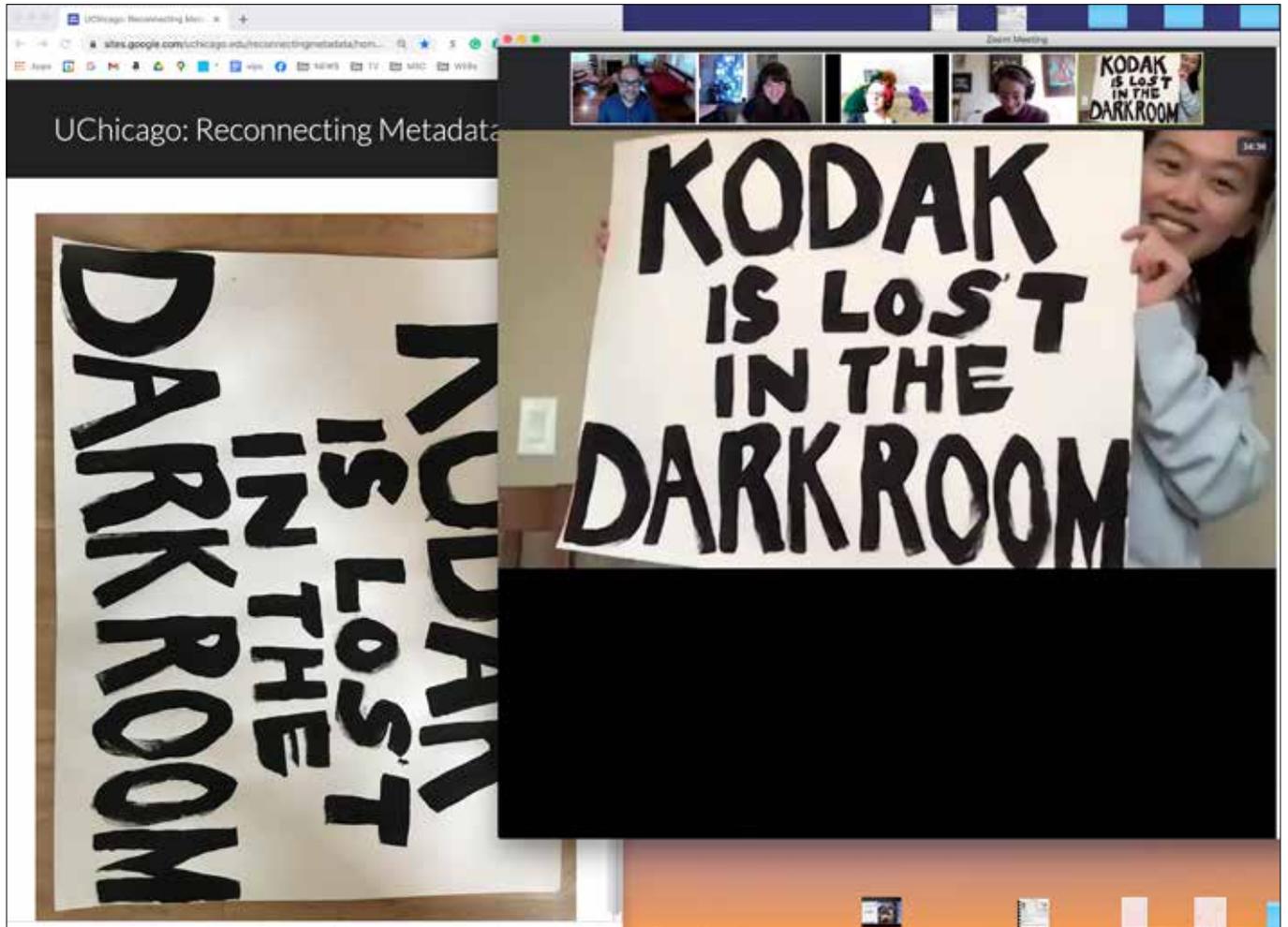
photographs by a Kodak employee, Hymen Meisel. What about that material appealed to you?

AF: Hy was an employee of Kodak and an amateur photographer. He took classes at Kodak and submitted his photos to Kodak photo contests. I've come across mentions of the prizes he won in the *Kodakery*, Kodak's employee newspaper. There's something democratic about these photography classes and contests. You had factory workers, research scientists, managers, nurses, phone operators—all learning and practicing photography together. They created possibilities for a sense of solidarity or, at least, mutuality among employees across hierarchical lines.

But Hy's archive is also a rich, idiosyncratic testimony to how someone lived his life and saw the world. There were a few rolls of film where it seemed he was experimenting or trying something new, taking photos of his reflection in melting muddy puddles in downtown Rochester. Maybe he was practicing something he'd figured out in class? Or it was an assignment? There are several rolls from the 1960s and 1970s during urban renewal in Rochester. He

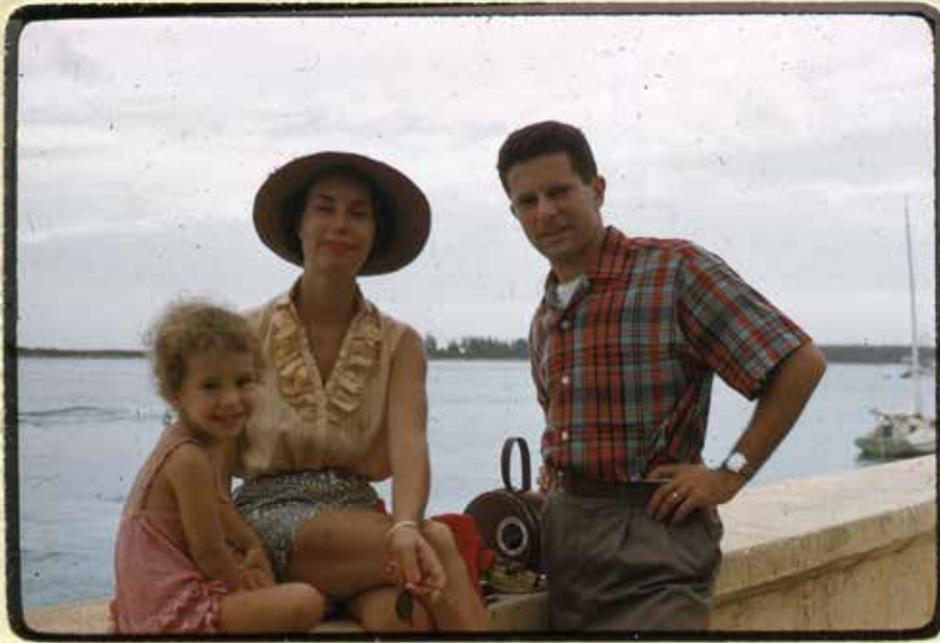
OPPOSITE

Screenshot from the online "Reconnecting Metadata—Race, Labor, and the Corporate Body" Kodak Workshop, University of Chicago, March 5, 2021. As part of the workshop, participants selected protest signs of demonstrations and protests involving the Eastman Kodak Company as depicted in historical photographs. Image courtesy of Ali Feser and Jason Lazarus



1
Sussex
Ann - Jean - Marvin

8561
1958



DEC
3

MADE IN U.S.A.
MY MEISEL 54 GIRTON PL.
ROCHESTER 7, N. Y.

31

documented the destruction of old churches and mansions and the construction of the new road system. What really excites me about Hy's images is that they're not family photographs. Family is overrepresented in the visual culture of Kodak. Hy's archive images a different but very rich kind of sociality—lots of cousins, friends, siblings, and one-off travel buddies who he met in Panama, Europe, or wherever.

Something else that I find incredible about Hy's collection is that toward the end of his life, he was making photographs of his TV. On the final few rolls, there are images of inaugurations: Johnson, Nixon, and Carter. He gets a new TV set halfway through, so you see that change. After all of Hy's travel shots and all of his street photography, the images of mass historical events on his TV are a reminder of the fact that film was a celluloid circuit that united public history with private and personal memory. It shoots the mass historical into the intimate and personal. These images of the inaugurations were mediated by television, but they were still an immediate part of Hy's sensory environment, as much as the old churches and the new roads.

CJ: I want to touch upon a unique aspect of the installation that involves social practice or social engagement. You have

OPPOSITE

A photograph from the Hy Meisel Slide Collection at the Visual Studies Workshop in Rochester, New York. Meisel, a lifelong resident of Rochester, photographed his personal and professional life, creative scenes, and his city as it changed over the years. Image provided by and courtesy of the Visual Studies Workshop, Rochester, NY

come across photographs in the archive that document public demonstrations and protests over the decades against policies of the Kodak corporation. These are community responses to issues such as the company's racialized hiring and promotion policies. You are hosting workshops to invite participants to re-create signs and placards used in these demonstrations. Jason, this is a strategy you often use in your work. Could you explain why activating these protest signs in this way is important?

JL: It is a good time for this history to become more visible, especially in the wake of Black Lives Matter. To refabricate the signs, to create a facsimile, the participants of the workshops have to look at the images and look at the signs' relationship to the body. It's kind of a "reverse" photography, going from an image to a sculpture.

How do we do something other than present this history in a museumological way? As an artist, I was intrigued by this form of engagement. It's another twist of the screw, another way to become more intimate, and for the experience to be bodily as opposed to the way that photographs are commonly presented—especially in a museum context where things are super sanitized and sealed in glass or plastic. This is a way of leaping through the photograph and getting back to the body.

The participant who is re-creating the sign has to identify something that they feel particularly attracted to or in solidarity with. It becomes a political lens or a relational mosaic through which you're seeing the signs. People choose signs from the project archive that they want to re-create. The participants' choices add a contemporary layer as they ask themselves what it is

in these messages that they respond to or wish to be close to.

Ali Feser (American, born 1984) is a cultural anthropologist trained at Bard College and the University of Chicago. Her research is situated at the intersection of visual studies, science studies, queer and feminist theory, and the anthropology of late industrialism. Her book manuscript, "Reproducing Photochemical Life in the Imaging Capital of the World," is an ethnography of US visual culture, industrial capitalism, and political fantasy through a material history of Kodak film.

Jason Lazarus (American, born 1975) is an artist exploring vision and visibility. His work includes a range of fluid methodologies: original, found and appropriated images, text as image, animated GIFs, photo-derived sculptures made collaboratively with the public, pigment inks as image, live archives, LED images, and public submission repositories, among others. This expanded photographic practice seeks new approaches of inquiry, embodiment, and bearing witness through individual and collective research and image production. Lazarus's work has been exhibited widely and featured in venues such as the San Francisco Museum of Modern Art; Art Institute of Chicago; MASS MoCA, North Adams; and George Eastman Museum, Rochester. He has an MFA from Columbia College and is currently assistant professor of art and art history at the University of South Florida.