Memories in the networked assemblage: How algorithms shape personal photographs

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Abstract

The vernacular photograph becomes a meaningful memory object when an affective exchange transpires between the image, the beholder and the assemblage of human and non-human forces in a photographic collection. The archival and material conditions of photography have increasingly shifted from the physicality of Kodak envelopes, and analogue albums, to the twenty-four-hour cycles of cyberspace. The curation of vernacular images is often delegated to algorithmic slideshows, such as Facebook's "Your Year in Review," which propel mathematically generated stories into the beholder's feed. In an exchange between computer and human memory, the viewer is exposed to the co-existence of the stored past within the live present, or what Henri Bergson termed "duration." This article self-reflexively explores memory acts with photographs both in a family's analogue collection, and in a social media timeline. From the situated perspective of a "digital wayfarer," I query the affect of photographic assemblages that call for curatorial arrangement, seeking out socio-historical continuities and ruptures in the photographic medium. Where new memory studies suggest networked immediacy has transformed photography into a continually reiterated "now," this article posits that the medium has not lost its relationship with remembrance: photography haunts the live feed with an algorithmically returned past.

Keywords

Networked Photography; Memory; Archive; Algorithmic Culture; Duration

Two archival collections have informed my understanding of the photographic encounter as an interaction between memory, the image and the snapshot's spatial and material configurations. The closed physical space of my parents' musty attic, and the fluid, networked ecology of social media sites are distinct environments that draw the act of remembrance into the photograph's context of storage and retrieval. Socio-

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historical ruptures and continuities emerge between the photographic practices and rituals of these spaces, wherein the analogue period of the medium provides a springboard and point of departure for the design and functions of networked infrastructures. Photographs that once presented themselves through encounters with paper, shoeboxes and Kodak envelopes, are now part of an assemblage of digital forms, codes and platform mechanisms. The memory work of curating and storytelling with personal photographs is increasingly undertaken in digital internet-enabled spaces, and yet the desire to shape and craft narrative from a vast personal archive endures. Today, the non-human workings of algorithms are a key component that informs this desire, and their agential force in the photographic assemblage is particularly apparent in the workings of automated slideshows.

This article focuses predominantly on Facebook's unsolicited photographic sequences, which first appeared in 2014 with the feature "A Look Back," and have since continued with slideshows such as "Happy Friends' Day" or "Year in Review." Since that time, regular algorithmically arranged montages have appeared on social media profiles, pulling photographs from networkers' timelines in sequences that suggest narrative chronology and nostalgic reminiscence. Other companies such as Google and Apple have followed suit, creating their own algorithmic arrangements of personal images with the advanced technological affordances of new devices and operating systems. Each manifestation of these features is part of a growing trend: to delegate the process of photographic curation to non-human forces in a time when photographic records exist in the billions. The creative process of assembling and curating personal images is now bound up with the affordances of networked computer technologies; human remembrances and photographic memory acts are becoming more than human. In the interplay between non-human displays and the imaginative process of human remembrance, an opportunity emerges for reimagining the photograph as a memory object with particular temporal dynamics. Records of the past are propelled into the live feed of internet time in unexpected ways, forming strange correspondences between the present moment of looking, and the departed experience captured photographically. This article adopts Henri Bergson's notion of duration to underscore the ways these photographic assemblages pierce the mediated present with the past, exposing the beholder to time as the co-existence of what has been, with what is. As such, these algorithmic arrangements illuminate the ways in which photography has historically grappled with a paradox: a departed moment is experienced with present immediacy, as though the captured instant were both alive and dead in the one shot.

As a situated media researcher, I use an experiential mode of writing to explore the interstices between a Kodak childhood of twenty-four-hour photo shops, and a networked adulthood of photos in twenty-four-hour streams. I trace the ways my father and I engage with the physical images stored in the upstairs room of my parents' apartment, and acknowledge my position as a digital user participating in the photographic production of live social media posts. To articulate the ways photographs are entangled in the distinct ecologies of these archival spaces, I borrow the Deleuzian concept of the assemblage, to "refer to the dynamic collection or arrangement of heterogeneous elements (structures, practices, materials, affects, and enunciations) that expresses a character or identity and asserts a territory" (Slack 152). This

phenomenological account of interactions with everyday photographs explores the gestures, rituals and affective responses to different photographic collections that inform a sense of memory and identity.

My parents keep the photographs of our lives in the family attic, where dust falls swiftly, and now and again possums find their way onto the awnings. Somewhere among an accumulation of large plastic boxes: a toddler dances with a straw-haired rag doll; a nine-year-old girl leaps barefoot across the soft floor of a springtime park; a baby clutches at green grapes, cross-eyed with the anticipation of their sweet juice. I move about the space, drawn to different images of the past according to the correspondences I sense between disparate moments in time. The paper prints are glossy and they slide smoothly when shuffled in the hands, clinging ever so slightly to one another. My engagement with these images is rhythmic, subject to stops and starts. My pace is guided by impulse, impression and touch. I collate, select, prioritise and arrange, according to the ways memory guides me in the moment of photographic encounter.

This process stands in marked contrast to the algorithmically driven stories produced from my online archives. In 2013, Facebook released their first slideshow feature, entitled "A Look Back." The social media site's home page was littered with frozen photo collages, each one stamped with the invitation to "Press Play." I followed the prompt and the screen panned over shots from get-togethers with friends; pictures of my cat rolling ecstatically on sheepskin; a tea pot filled with flowers; a party snap where my mouth twists awkwardly in mid speech; and yet more cat pictures. It arranged the sequence in categories that suggested a narrative order derived from quantitative data: "Your First Moments," "Your Most Liked Posts." The algorithms designated what matters most to me according to a mathematical logic.

Image 1. Facebook promotes its slideshow feature, "A Look Back" (Facebook).

From both these photographic ecologies emerges an understanding of how photographs and algorithms have the capacity to affect their beholder as non-human objects with agency all their own. These elements of the networked photographic assemblage are "nonhuman actors whose agencies help shape the interactive process, a process characterized by contingency and interpretive flexibility" (van Dijck 27). Despite efforts of narrativisation and sequencing, photographs often break out of the intended structures, practices and enunciations to which they are assigned; an algorithm can push a photograph into the live feed that does not soothe the beholder with a sense of nostalgia, but instead pierces the subject with a depiction of time that has passed. When this transpires, the dynamics of the photographic assemblage shifts the process of remembrance that the beholder experiences.

The agential force of photographs has struck me from my wanderings amongst the disordered attic collection, and in my screen-based encounters with pictures sequenced by non-human code. I am affected by an array of images that traverse virtual and physical ecologies. I write from this position as a "digital wayfarer," which Larissa Hjorth and Sarah Pink describe as a networked user whose "trajectory entangles online and offline as they move through the weather and the air, with the ground underfoot and surrounded by people and things, while also traversing digital maps, social networking sites, and other online elements" (Hjorth and Pink 45). These things and spaces include not only the screen-based encounters with photographs online, but also my shuffling and digital scanning of pictures stored in my parents' apartment. The process of using photographs in acts of remembrance is composed of overlapping "ecologies of place," or locative experiences of photographs which involve "creative touches enabled by devices, manipulations of spatial orientations in materiality, corporeal positioning of the self and others, and the language of Web 2.0 content" (Hess 1632). As a digital wayfarer, I observe how the resonance of personal images is produced through assemblages of human and non-human forces, be they made of dust and paper, or algorithms and glass screens.

The internet's non-human collocations of my memories are becoming far more frequent than my own narrative processes with the Kodaks of the attic. The accumulation of printed family photos has also steadily slowed since Facebook first arrived on the scene in 2004. Since that time, photographs that were once confined to the private circles of close friends and relatives have become part of a shared digital space with strangers' and acquaintances' images. The speed at which new technological affordances and social practices develop suggests that the "new" of new media may be outstripping the "old." However, as a digital wayfarer, I cannot escape how practices from the analogue era of photography intersect and influence the ways the medium is structured in networked mobile forms. Many analogue genres, such as the slideshow, are now incorporated into mobile media in ways that reflect enduring understandings of personal images as memory objects that can be sequenced into stories. Shifts in photographic practice cannot be easily divided into a new/old binary. As Wendy Chun states:

> *…rather than asking, What is new media? we might want to ask what*
> *seem to be the more important questions: what was new media? and what*
> *will it be? To some extent the phenomenon stems from the modifier new:*
> *to call something new is to ensure that it will one day be old…Neither the*
> *aging nor the speed of the digital, however, explains how or why it has*
> *become the new or why the yesterday and tomorrow of new media are*
> *often the same thing. (Chun 148)*

Despite rapid techno-social changes, vernacular photography continues to be a way of mediating the unfolding of lived time. Often seemingly banal in content, vernacular images form intimate archives of the lives people have led, and the people they have loved. I need to be connected with both online and offline photographic collections: these images are talismanic connections to my past. The collection in our attic is where photography has secreted its traces of our family illnesses, deaths, births, joys and mundane habits.

My father shares this understanding of our analogue photographs. "They're all to do with family hopes and family losses," he says (Anderson). The attic may be a relatively private space, but it is still one of relational exchange between family members and photographic rituals. This shared ceremonial process is particularly meaningful at this moment, when we are all coming to terms with my father's diagnoses with several degenerative conditions. For many years now he has battled a slow-burning form of lymphoma, which has since been complicated by another cancer, and a recent diagnosis of early onset of Alzheimer's disease. "I'm decaying," he says. "And I've been decaying since 2000" (Anderson).

I have watched him assemble tentative narratives in his encounters with photographs in the attic: images weighted with intensive affect pull him in certain trajectories. There are moments of pause, laughter, and occasional non-sequiturs. He skims over the pictures that do not resonate with his present moment of looking, and instead draws closer to photographs that beckon. He scans certain meaningful shots into his computer for safe keeping. This is memory work in motion; through gestures with the photographic assemblage there emerges a strange coalescence between present and past. In this photographic ecology, time begins to be experienced as Bergson's notion of duration, wherein all "states melt into each other," fusing past, present and future (Bergson 243). Disparate moments in time begin to hum with non-chronological resonance. There is a picture of my old man as a baby boy. In this shot he is a soft-cheeked toddler, plonked in front of a soft grey canvas backdrop at a portrait studio. His round baby thigh protrudes from under the outfit. Soft new skin. I look at Dad's wrinkled face, smiling at the returned image of this young, new self, before illness or aching bones.

This experience of overlapping temporalities chimes with Roland Barthes' description of photography. He sensed a tension in a portrait of Lewis Payne, a young man on death row: "I read at the same time: this will be and this has been; I observe with horror an anterior future of which death is the stake. Whether or not the subject is already dead, every photograph is this catastrophe" (Barthes 96). This duality of absence and presence is the poignancy of the medium, which in its stillness appears to

keep departed moments alive as unchanged images, and yet serves as a reminder that time has continued to enfold everything in time as becoming.

Recent scholarly work on networked photography suggests that such encounters with personal images are no longer available (Villi, Sandbye, Kember, Zylinska). The practices and rituals of photography are predominantly emphasised in relation to the transience of live internet time. For Mikko Villi, the twenty-four-hour stream of personal images is one of spatial rather than temporal dialectics: photographs "form a connection between there-now and here-now, instead of mediating the there-then to here-now" (9). In the real-time of cyberspace, photography's memento more ontology has also been reassessed. Mette Sandbye revises Barthes' statement that every photograph posits "this-has-been," and suggests the live stream of images is a constant replenishment of "this-is-now." Joanna Zylinksa seeks "to wrest photography away from its long-standing association with mummification and death, and to show its multifarious and all-encompassing activity," or its liveness (16). The potentiality of photographic data as stored information is neglected in these accounts, as the agency of algorithms is not considered; automated slideshows offer the possibility for the stored past to pierce the live stream with the return of personal history. The networked ecology returns stored records through "constant repetition, tied to an inhumanly precise and unrelenting clock," (Chun 148) forming part of what Chun describes as the "enduring ephemeral" of internet time: both transient and stored. The contradictory temporality of the web grants the memento-mori ontology of photography an afterlife, when algorithms push images of departed time into the live-streamed present.

Both analogue and networked ecologies enable the possibility of encountering photographs from departed time in ways that present a synthesis of death within life. My father engages with photos that return boyhood, birth, family funerals and fatherhood, all in a time when he is confronting his own mortality. He started making his first photo album in 2000, when he was being treated for lymphoma. I leaf through his album now and see how time unfolds from page to page: his mother as a young woman, clowning around on a sandy beach; my grandfather holding her tight as she deliberately goes limp in his arms; the birth of two brothers; the family dog Ginger. This is his process of crafting fixed stories out of fragments of time captured by cameras. As media historian Geoffrey Batchen observes, "something creative has to be done to a photograph, some addition has to be made to its form, if it's to function as an effective memory object" (48). In this creative ritual, the past and the present are laid out in ways that suggest linearity and form. The curation of an album is practiced to express his sense of identity at a time when he feels he is "decaying." "I like the album because *I* made it," he laughs. "I kind of like my makings. The things that I make" (Anderson; emphasis added).

Such a curatorial process is logistically difficult to achieve with the vast numbers of images in networkers' stored timelines. Platform corporations have sought technologically assisted means for users to structure and order the billions of images accumulated through networked exchange. Auto-slideshows are one way of simulating or artificially enacting the process of photographic storytelling in the context of such visual abundance. Their role and effects resonate with Ted Striphas' account of

algorithmic culture, which is programmed "to sort, classify, and hierarchise people, places, objects, and ideas, and the habits of thought, conduct and expression that arise in relationship to those processes" (cited in Hallinan and Striphas 119). These curated arrangements do not follow the same processes my father enjoys when he sorts and classifies photos for his "makings." But the algorithmic logic is designed to speak to the same desires and habits of thought that Dad experiences when he transforms scattered images of his photographic collection into stories. Storytelling and montage are a response to the sense of excess produced by large bodies of images which seem to resist contained, linear structure.

The family attic may be a small space, and yet the photographic collection that lives there is a challenge to order and arrange. My father looks upon the gathered array of things and images and feels somewhat overwhelmed. "I've actually accumulated too much to be able to apprehend it all," he says (Anderson). A tide of disordered images gather in the disarray of fallible human recollection. Kodak envelopes are placed together according to guessed dates. Some coincide with events that resonate with the same emotional frequency, while others focus on the physical spaces in which happenings unfolded. Then there are connections I cannot explain, moments that have been placed side-by-side haphazardly. Time is scattered, not arranged or ordered but folded in strange ways.

Here is a photograph of my mother holding her full pregnant belly, just one month before my birth. Here, a shot of me at sixteen, confined to bed with Chronic Fatigue Syndrome. The now has become subsumed with images of past lived experiences which will not disentangle themselves from this current moment. Things entwine: childhood, adolescence, parents as children, grandparents in their youth. In the picture of my parents' clasped and freckled hands I read the pictures of them as young partners in a pas-de-deux class; in the image of myself as a smiling little girl is the hidden trace of another photograph when I was grieving at the age of fourteen. Time is dripping and I have no clear story with which to pin it down and order it. This collection of images is exposing me to time as "a becoming that endures" (Deleuze 37) wherein the liquid movements of change weave their way through this disarray of captured instants. Photographic assemblages such as my family's disordered attic collection challenge any "apparent order of time and space and the logic of this order," instead revealing "the pure change of the world and, most importantly, our attempts to understand it" (Sutton 44). I seek to understand how my world has changed by looking for ways photographed moments of note can be stored to transform the experience of duration into one of fixity.

Up until 2011, Facebook created a similar sense of time as becoming, and thus evoked this same desire for narrative fixity. Facebook's first interface concentrated exclusively on the twenty-four-hour feed in which photographs appeared fleetingly and depart. In the words of Sam Lessin, Vice President of Product Management, "the more important stuff slips off the page. The photos of your graduation get replaced by updates about what you had for breakfast." CEO and founder of Facebook, Mark Zuckerberg, described this continual movement of the live page as information and personal records "falling off a cliff." As an antidote to this sense of continual dissipation the platform

designed the Timeline, which first appeared in 2011. The company refashioned what the material photo album once promised: a way to "collect all your best moments in a single place" (Johnson).

However, my first interaction with Facebook's timeline did not cure my sense of time falling off a precipice. I started at the top of my page with the most recent shot: a glaringly lit plate of oily chicken dumplings next to a plastic cup of white wine. A night out with friends in Chinatown. At the bottom of the image a pixelated thin blue line started to course down the webpage, down to the next captured instant of my networked life, and the next. I spiralled down with this blue thread from one image to another. I slid down the scroll bar until I reached what looked like the end of the page. A myriad of stored photos sprung out of nothingness and the scroll marker darted back to the top, as though I had not moved at all. I felt pulled into a sense of endless motion in a story without clear boundaries; vertiginous from a visual experience which disrupted hopes of being able to hold onto the past.

This photographic stream heralded what Victor Burgin identified as a revolutionary shift in the medium, which transforms "every photograph on the Web into a potential frame in a boundless film" (Burgin 186). This photographic reel keeps on reeling. To counter the impression that time is both ceaselessly accumulating and disappearing, the narrative form of the auto-slideshow emerged, designed to make the "enduring ephemerality" of personal photographs more easily graspable. Confined to a fixed selection of images, these displays can be replayed from beginning to end at any time; in other words, the narrative appears as a closed loop. Structurally, these algorithmic creations act much like the covers of a material photo album, or the wheel of an analogue carousel projector: they seal a photographed past in a structured, enclosed space.

The concept of securely containing the past was materialised in the analogue carousel wheel. The loop of this slideshow device met a desire for a contained narrative enfolded in circular form. This shaping of mediated experience is poignantly illustrated in the popular television series *Mad Men* (2007-2015), which is set in New York in the 1960s. At the end of the first season, the main character Don Draper (Jon Hamm) makes an advertising pitch for Kodak's first carousel. As he cycles through photographs of his wedding, and glowing pictures of his children playing in a suburban garden, he describes the device as "a time machine. It goes backwards, forwards. It takes us to a place where we ache to go again. It's called the Carousel. It lets us travel the way a child travels. Around and around and back home again, to a place where we know we are loved" ("The Wheel" 1.13). The montage implies time is a linear thread that can be rewound to a preserved past, beautifully cut off from change. This is nostalgia, a romanticised image of time fixed in place, untouched by the forces of duration and awaiting the viewer's return.

My father sought such a fixed form of the past shortly after the first MRI scans of his body arrived from the hospital. From within a claustrophobic white tunnel, penetrating cameras looked beneath his skin, making hundreds of slices of internal organs and bones. Visual laser cuts formed an animation of muscles and ligaments, the totality of his body summed up like an organic machine. He called me in to his study to look at the

results onscreen. Mercurial white shapes emerged from black, like dead coral, hidden and revealed by a dark moving ocean. And nestled in his groin, two misty round strangers that had no name, that didn't belong. Would they shrink, or grow?

This strange Rorschach footage of his physical form seemed to evoke his desire to create a contained body of memories. The photo album which seals images between its covers is one way to manage and understand how time simultaneously builds up and departs. According to Pierre Bourdieu, the album's linearity confirms the unified present from a structured past, and "has all the clarity of a faithfully visited gravestone" (30). The human form dissipates, but some seemingly solid structure remains as testament to what once was.
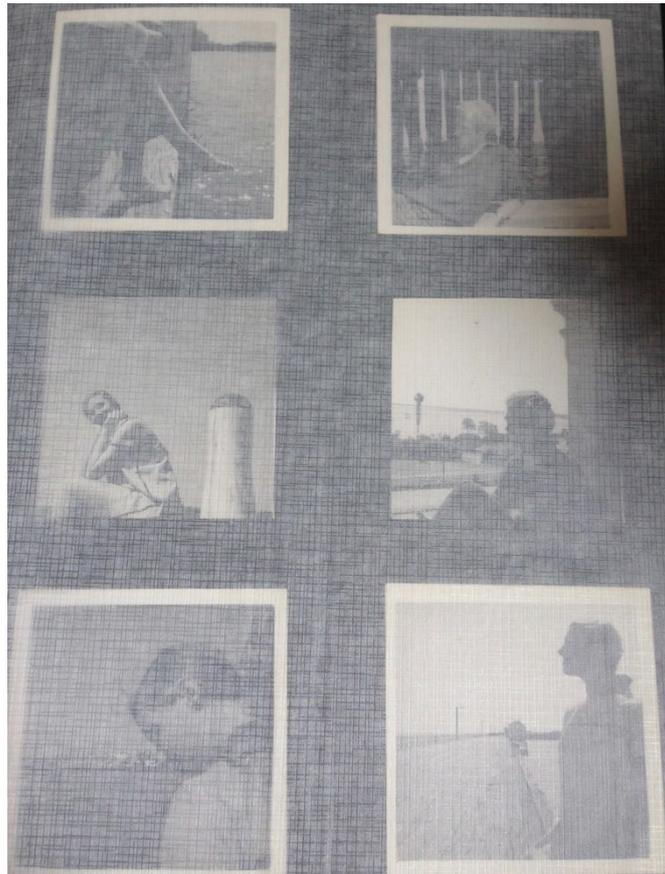

Image 2. A page from my father's album.

However, the linear thread of time implied by these chronological photo-texts is broken apart as material, human and non-human forces in photographic assemblages continue to interact in unanticipated ways. Photographic collections are no longer confined to small attics and the interactions of family relatives. Auto-slideshows draw from material far beyond the bounds of home or selfhood: images are sourced from the billions of networkers producing photographic content, and from the pinned location of photographs read by satellites circulating the Earth.

The multiplicity of the networked assemblage became visible one day in 2017, when a video entitled "Happy Friends' Day" presented a strange computerised figure made of

broken pieces. It danced joyfully about an empty white space, its body made of floating round discs imprinted with emoticons and portraits of friends in my social media network. These photographic cells pooled together and dispersed in the automated arrangement of a human shape that strained and broke at the seams, sometimes losing form and becoming nothing but a series of moving parts. The whirlwind figure both embodied and disassembled the desire for a cohesive body of memories to emerge through photographic arrangement. Neither living nor dead, it broke apart and reformed, caught between appearance and dissipation, drawing closer for me to see the portraits of loved ones, then pulling back, becoming a series of abstract dots.
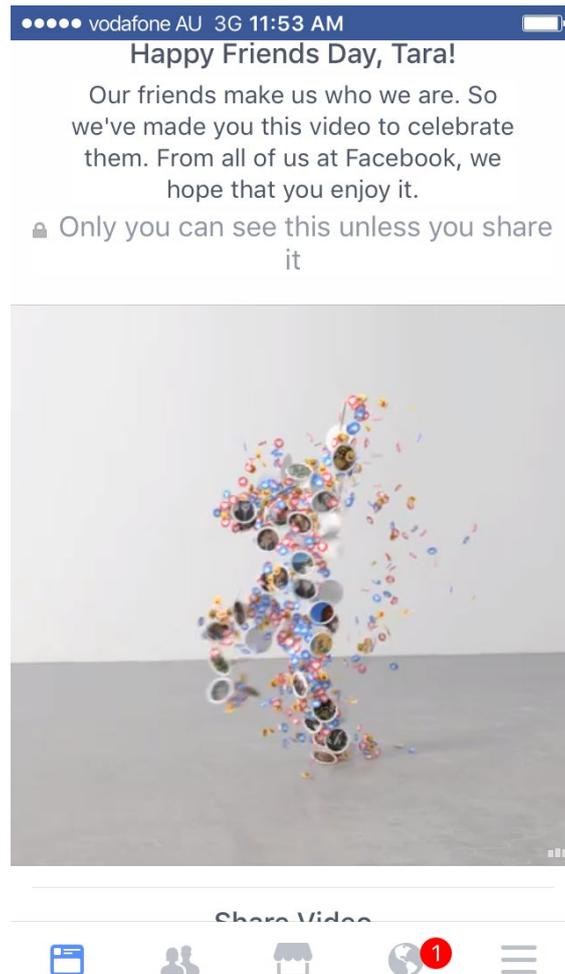

Image 3. The dancing body of "Happy Friends' Day".

I recall the abstract shapes of my father's body in MRI footage; the black and white kaleidoscope of shapes that slowly emerged into recognisable forms, like "fingertip", "rib cage" "brain," "eye socket" "lungs." Then the body of memories that he put together in with elephant grip glue and a heavy photo album with black pages. And yet he has accidentally stuck this storied sequence back-to-front and upside-down, so it reads backwards. Unstuck photos sit loose between some of the pages and sometimes slip out of the book. It seems that any venture into creating a unified photographic tale returns to duration, as forces in the assemblage begin to rupture the sense of something

complete and fixed. From these ruptures to narrative, duration is intuited as the indivisibility of moments which resolve themselves "into numberless vibrations, all linked together in uninterrupted continuity, all bound up with each other, and travelling in every direction like shivers through an immense body" (Bergson 208). The immense body of data in the networked ecology dances to the logic of algorithms, which choreograph personal memories according to non-human understandings of time.

These unsolicited stories are told by a computer that does not remember imaginatively. A photograph taken at a particular date is prioritised, or an image with more likes is pushed forward. In this respect, these features operate through Bergson's notion of artificial time, where temporal flux is wrested into containable, pin-pointed units of the clock. He writes that "instead of attaching ourselves to the inner becoming of things, we place ourselves outside of them in order to recompose their becoming artificially" (Bergson, *Creative Evolution* 322). Time is cut into socially manageable, self-contained units that situate any given moment as a singular entity, cut off from its past and future. According to an algorithm's calculations, a photograph of my now departed cat on a moonlit balcony is no longer a memory of a creature I called Charlie: it is data from 7.15pm on 26 October 2009. An artificial and quantified understanding of memory is founded on the idea that returned photographs will deliver the same sensations and emotions as when they were first uploaded. Here is the

> *...conflation of memory and storage that both underlies and undermines digital media's archival promise. Memory, with its constant degeneration, does not equal storage; although artificial memory has historically combined the transitory with the permanent, the passing with the stable, digital media complicates this relationship by making the permanent into an enduring ephemeral, creating unforeseen degenerative links between humans and machines. (Chun 148)*

The algorithm cannot possibly know that in the photograph of Charlie at 7.15pm on 26 October 2009, I am also remembering his playful youth as a kitten, and his last moments on the vet's table, with my face reflected in his dying eyes. Unanticipated meanings are produced in the degenerative links between humans and computers, as auto-slideshows reveal that memories are not so easily slotted into predictable forms.
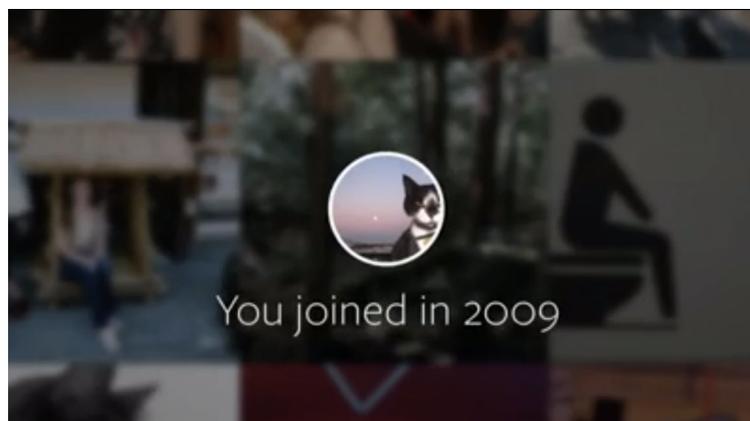
Image 4. Screenshot from my slideshow on "A Look Back" (Facebook).

A photographic encounter is an exposure to duration, where the image is overlaid with the beholder's knowledge of experiences that have transpired since this moment's visual capture. Sometimes these exposures to duration open old wounds. When the slideshow transitions between nostalgic familiarities to the sharp punctures of trauma, loss or grief, time is experienced as a multiplicitous and untameable force. This happens in "Your Year in Review," when moments of mourning and shock arise, and some networkers experience a past that pierces the present. One user is delivered a photo of their apartment ablaze in flames. The destruction of their home is framed by a cheery confetti style design: "James, here's what your year looked like!" (Dzieza). Another networker receives a photograph of the urn carrying his father's ashes (Hern). This ceremony of grief is bordered by colourful dancing stick-figures, and accompanying words: "See your year." These same clip-art party goers dance around the portrait of another networker's little girl, who died at the age of six from an aggressive brain cancer (Meyer). Data based photographs arise unbidden and unsolicited, at moments when the beholder is not prepared for their re-apparition. An image of a home caught in flames may be uploaded to the live feed in an instant electrified with shock and loss; this is not to say that the photographer is prepared to experience the return of this photograph at a later moment in time, when they are not in the frame of mind for commemoration or remembrance.


Image 5. James' "Year in Review" (Dzieza).

In the disordered collection of the family attic there are images that slice open painful experiences. I open myself willingly to this each time I open one of the boxes in the attic; it is my choice to be drawn into such photographs and memories. Auto-slideshows operate through a different form of affective force, a push modality. Memories are fed to the viewer in real time, as an uninvited array of images is springs open. Much like the opening of Pandora's box, anything could come out with a burst of animated confetti.

Sometimes the jarringly impersonal spills out, framed as an intimate story. On Facebook's slideshows, networkers have been presented with a series of non-sequitur

"memories." Online bloggers document the appearance of unexpected images in Facebook's "Your Year in Review." The algorithm inserts their photo stories with peculiar interruptions, such as an inexplicable rock (Kumparak), a slimy unidentified fish (Gayomali), and a close-up of food (TMNsam [pseud.] in Hamburger). The artificial rendering of time as data becomes markedly apparent in these unexpected shots, as does the agency of algorithms in the act of remembrance.

Auto-slideshows are becoming more sophisticated now, and non-sequiturs may become less frequent with improvements to the technological apparatus. Even so, these algorithmic memories sustain the capacity to expose the viewer to photography as the poignant coalescence of life within death. Ryan Gantz, director of User Experience at Vox Media, writes of the ways Google Assistant combined his images "in a way that no reasonable person would attempt. Ever. The result is surreal, random, creepy, sad, and oddly funny" (Gantz). Google Assistant generates auto-slideshows whenever someone returns home from a trip, and so the algorithms compiled a slideshow upon Gantz' return home from his grandmother's funeral in Massachusetts. The montage showed images of her coffin, side by side with energetic shots of his children running in a school race in Portland that same day. "The film itself is a new kind of uncanny valley for digital artifacts," writes Gantz. And this strange exchange between computerised data and his own memories left him with a strong impression, that "death and loss are a part of life, and we all have to keep running, around and around, forward through the sun" (Gantz).

His reference to the fluidity of networked lives on Earth recalls a strange slideshow I received from Facebook's second "Year In Review." Amidst a montage of sentimental familiarities appeared planet Earth seen from the distant reaches of the galaxy. Known as "The Pale Blue Dot," this well-known photograph was taken in 1990 from a NASA satellite floating through deep space. It shows Earth as a speck of dust suspended in a celestial swarm of deep purple and sea green. I remember when I uploaded it, one afternoon when trivial anxieties were invading my thoughts and I felt the need for renewed perspective. In the context of a coded carousel, Earth has re-emerged in the computer's prescriptive category of "my memory." A small laugh escapes my throat; this "Pale Blue Dot" is not my memory. Or is it? Somewhere between the picture of a planetary speck called Earth and more personal images, this data-based arrangement has de-familiarised my relationship with photographs as memory objects. My pictures of cats, tea pots, parties and friends become strange forms taken up by a computerised pattern, wherein all photographs are equivalent as data in a fast-growing personal profile. Do these photographs belong more to the coded system of algorithms than they belong to me?
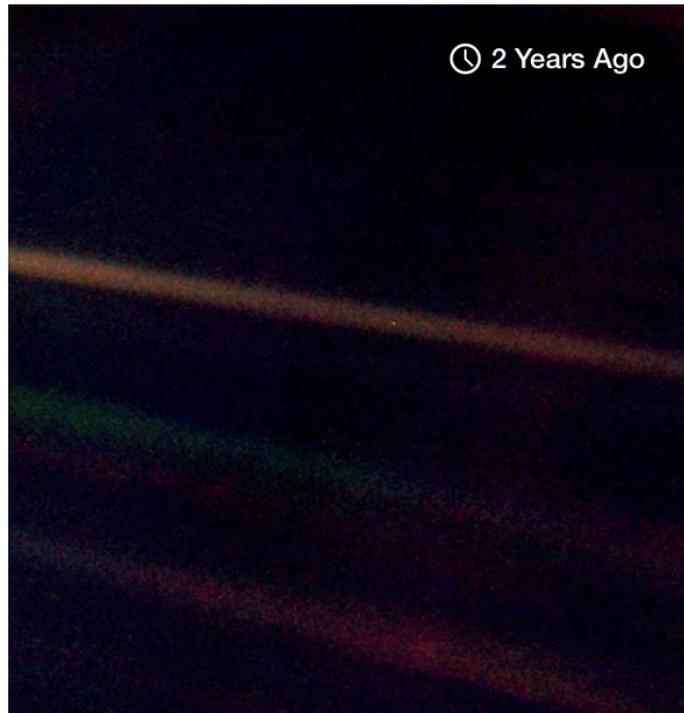
Image 6. A memory of Earth (Facebook).

Somewhere in that pixelated cell of the "Pale Blue Dot" is my father's attic full of analogue memories. Photography has transcended the bounds of such small family spaces; the possibility of creating a contained body of memories is complicated by multiple technological affordances that have converged with the medium. The Earth is circulated by satellites that geo-locate personal images taken by a population of digital wayfarers, all of whom can be artificially recognised through ever-improving facial recognition software. A developing techno-social assemblage is changing the ways that memories are categorised and re-experienced from their existence in a networked assemblage. Under what conditions will my photographs be algorithmically arranged in the future, and who will be moved by their strange apparition onscreen? This cannot be calculated through codes or computerised operations because photography affects memory in ways that constantly shift. Algorithms will continue to reveal the "enduring ephemeral" through their tension between storage and liveness; photographs will remain paradoxical in their expression of the past within the present. In the co-existence of storage with the live, and of death within life, networked photography invites creative memory acts that seek fixity from an assemblage that will not be held still. Technology promises a site of a return to the vast terrain of a photographically stored past; and yet these more than human memories capture nothing but the movement of time that ceaselessly accumulates as it slips away.

References

Anderson, Cheyne. "I Was Here." *Think: Digital Futures*, 2ser, 13 July 2018, https://2ser.com/i-was-here/

Barthes, Roland. *Camera Lucida: Reflections on Photography*. Farrar, Straus and Giroux, 1981.

Batchen, Geoffrey. *Forget Me Not: Photography and Remembrance*. Princeton Architectural P, 2004.

Bergson, Henri. *Creative Evolution*. Translated by Arthur Mitchell, MacMillan and Co Ltd., 1922.

Bergson, Henri. *Matter and Memory*. Translated by N.M. Paul and W.S. Palmer, Cosimo Classics, 1991.

Bourdieu, Pierre. *Photography: A Middle-Brow Art*. Translated by Shaun Whiteside, Stanford UP, 1996.

Burgin, Victor. *Parallel Texts: Interviews and Interventions about Art*. Reaktion Books, 2011.

Chun, Wendy Hui Kyong. "The Enduring Ephemeral, or the Future Is a Memory." *Critical Inquiry*, vol. 35, no. 1, 2008, 148–71.

Deleuze, Gilles. *Bergsonism*. Translated by Hugh Tomlinson and Barbara Habberjam, Zone Books, 1991.

Dzieza, Josh. *Facebook's New Nostalgia Feature Is Already Bringing up Painful Memories - The Verge*. 2 April 2015, http://www.theverge.com/2015/4/2/8315897/facebook-on-this-day-nostalgia-app-bringing-back-painful-memories

Facebook Inc. "Facebook Timeline." 2011. Facebook 2011

Facebook Inc. "A Look Back." Online Video, Facebook News Feed 2013

Facebook Inc. "Happy Friend's Day!" Online Video, Facebook News Feed 2017

Gantz, Ryan. "Laughing and Crying My Way through the New Google Photos." *The Verge*, 4 June 2015, https://www.theverge.com/2015/6/4/8729943/laughing-and-crying-my-way-through-the-new-google-photos

Gayomali, Chris. "Facebook Celebrates 10th Birthday With Nostalgic 'Lookback' Tool That Doesn't Really Work." *Fast Company*, 2 March 2014, https://www.fastcompany.com/3026018/facebook-celebrates-10th-birthday-with-nostalgic-lookback-tool-that-doesnt-really-

Hallinan, Blake, and Ted Striphas. "Recommended for You: The Netflix Prize and the Production of Algorithmic Culture." *New Media & Society*, vol. 18, no. 1, 2016, 117–31.

Hamburger, Ellis. "Facebook Celebrates 10-Year Anniversary with Personalized 'Look Back' Videos Just for You." *The Verge*, 4 February 2014, http://www.theverge.com/2014/2/4/5376396/facebook-look-back-video-lets-you-relive-the-last-ten-years-of-your-online-life

Hern, Alex. "Facebook Apologises over 'cruel' Year in Review Clips." *The Guardian*, 30 December 2014, http://www.theguardian.com/technology/2014/dec/29/facebook-apologises-over-cruel-year-in-review-clips

Hess, Aaron. "The Selfie Assemblage." *International Journal of Communication*, vol. 9, 2015, 1629–1646.

Hjorth, Larissa, and Sarah Pink. "New Visualities and the Digital Wayfarer: Reconceptualizing Camera Phone Photography and Locative Media." *Mobile Media & Communication*, vol. 2, no. 1, 2014, 40–57.

Johnson, Mick. "Timeline: Now Available on Mobile." *Facebook Newsroom*, 15 December 2011, https://newsroom.fb.com/news/2011/12/timeline-now-available-on-mobile/

Lessin, Sam. "Tell Your Story with Timeline | Facebook Newsroom." *Facebook Newsroom*, 22 September 2011, https://newsroom.fb.com/news/2011/09/tell-your-story-with-timeline/

McLennan, Tara. "A Page from my Father's Album," 2016, digital image, personal collection

Meyer, Eric. "My Year Was Tragic. Facebook Ambushed Me With a Painful Reminder." *Slate: Future Tense*, 29 December 2014, http://www.slate.com/blogs/future_tense/2014/12/29/facebook_year_in_review_my_tragic_year_was_the_wrong_fodder_for_facebook.html

NASA, "The Pale Blue Dot," satellite photograph, Voyager 1 Space Probe, February 14 1990.

Sandbye, Mette. "It Has Not Been—it Is. The Signaletic Transformation of Photography." *Journal of AESTHETICS & CULTURE*, vol. 4, 2012, http://dx.doi.org/10.3402/jac.v4i0.18159

Slack, Jennifer Daryl. "Beyond Transmission, Modes, and Media." *Communication Matters: Materialist Approaches to Media, Mobility, and Networks*, edited by Jeremy Packer and Stephen Crofts Wiley, Routledge, 143–58.

Sutton, Damian. *Photography, Cinema, Memory: The Crystal Image of Time*. U of Minnesota P, 2009.

van Dijck, José. "Disassembling Platforms, Reassembling Sociality." *The Culture of Connectivity: A Critical History of Social Media*, Oxford UP, 2013, 24–43.

Villi, Mikko. "'Hey, I'm Here Right Now': Camera Phone Photographs and Mediated Presence." *Photographies*, January 2015, 3–22.

Weiner, Mathew, creator. *Mad Men*. 2007-2015. American Movie Classics / Lionsgate Television.

Zuckerberg, Mark. "F8 Keynote Address." *YouTube*, uploaded by MarkZuck, 29 October 2011, https://www.youtube.com/watch?v=1OQQ4E2k0Mk

Zylinska, Joanna. "Photomediations: An Introduction." *Photomediations: A Reader*, edited by Kamila Kuc and Joanna Zylinska, Open Humanities P, 2016, 7–20.

About the author

Tara McLennan completed a PhD in the Faculty of Arts and Social Sciences at the University of Technology, Sydney. She adopts creative practices to explore visual culture and poetics of the past, and her work draws on a life-long fascination with the relationship between images, memory and creative acts. Tara has worked as a sessional academic tutor for the past five years, teaching primarily in media studies and cultural studies. She is the secretary of the Sydney Screen Studies Network, which is a scholarly community that explores all thing screen based, from cinema to networked image ecologies.