

Section 1 - Title

Memory Machines and the Human Witness
By Zachary Holbert

Section 2 - Hook

For my fortieth birthday I inherited a family archive of Kodachrome slides from my ninety five year old grandmother in Texas. I flew back to New York City clutching a box of nearly a thousand precious memories from a mythical period in my family's history. The slides were dated between 1955-1975 complete with beehive hairdos, legendary fishing trips and a lipstick red '57 Chevy. Scrutinizing each slide carefully under a loupe, I peered backward in time as long lost great grandparents came to life and an alternate reality of fashion, technology, and culture revealed itself. I couldn't stop looking at my Nana. She was so young. It was as if her entire life had been captured and stored in this box of photos. It felt at first as though I was a time traveller, but when I leaned in close to look into her eyes, something essential was just out of reach.

Section 3 - Nutgraf

Photos and video are magical corridors that allow us to peer backward in time, but only as silent observers. The gaps that exist between the photos are the lives that our family lived. New artificial intelligence tools have the incredible ability to bring archival photos to life, generating digital twins of our loved ones that breathe, speak, and smile back at us. Yet like photographs, these artifacts cannot tell us who someone actually was. Our elders and the stories they tell are the only true conduit to an unobservable past but their time with us is as finite as the archives they leave behind. With their passing, we lose not only the people we love but also the memories they carry.

Section 4 - Body Section 1 - Theoretical Foundation

Paragraph 4.1 - Indexical Limits

Family photographs are often given the status of sacred objects. There is a certain aura that emanates from them that gives us a sense that they somehow, magically retain a small portion of a person's essence. Art critic Walter Benjamin was suspicious of the mechanical nature of photography. He believed that photographic reproduction of a moment in time and space diminishes its aura. I am still trying to reconcile Walter's theory against my own instinct to perceive the camera as a magical memory machine. Film theorist André Bazin argues that humans have a sacred relationship with the photographic image. "*If we were to psychoanalyse the visual arts, the practice of embalming might be seen as fundamental to their birth... This belief satisfied one of human psychology's most fundamental needs: to defend against time.*" (Bazin 1958, 3) In connecting the photograph with the preservation of the body, Bazin is implying that we have an innate compulsion to keep our loved ones alive in some form.

Paragraph 4.2 - The Subtle Details

What is it about this photograph of my Nana that makes her feel so alive? I'd like to think it's the eyes but if I take a long moment and examine the photo closely, all of my memories of her begin to synthesize into something more. It's the small things acting in concert to form a second image in my mind's eye to animate her body and bring her back to life for a fleeting moment.

Paragraph 4.3 - The Punctum - The jolt of life

The French essayist and philosopher Roland Barthes wrote in his book *Camera Lucida* that photographs contain what he called the “punctum”. ***"A photograph's punctum is that accident which pricks me (but also bruises me, is poignant to me)." (Barthes 1970, 27)*** The “accident” that Barthes is referring to is the unplanned. Something that neither the photographer or their subject could have intended. The wound in Nana's photo is her expression. I can't tell if she is annoyed or unhappy. Because I know her and the history of her marriage to my Papa, it could go either way. I'm wounded because her pain saddens me. I'm bruised because I can't get this image out of my head. I see her at this moment in ways that I remember her. In this recall she comes alive. Therein lies the problem.

Paragraph 4.4 - The Temporal Paradox

Photographs present an impossible duality. We feel the presence of the person despite the fact that we know they are gone. Philosopher and theorist Roland Barthes explains this temporal paradox through the medium of the moving image: ***"What I see has been here, in this place which extends between infinity and the subject... it has been here and immediately separated; it has been absolutely irrefutably present, and yet already deferred."* (Barthes 1970, 77)** Barthes' bittersweet revelation tries to reconcile my own meditation on the limits of mechanical photography against the presence that it captures. Barthes shares his realization that the very essence of photography itself is simply a “reference”. But can this be true? I can feel Nana in these photos. This tension led me to wonder if AI could bridge a very small part of that gap. Why not let another memory machine reverse the process, transforming the stillness of a photograph into a living moment?

Section 5 - Body Section 2 - The Memory Fabricator

Paragraph 5.1 - Humans = Enhancement Logic

Having twenty years of archival restoration under my belt I couldn't help but approach this problem with a technological solution. What would happen if I were to use artificial intelligence to generate a motion picture from a reference photo? I assumed that if I crafted a clever enough prompt, Nana would suddenly come to life. As long as the AI didn't impart any uncanny valley it should work. Laura Mulvey argues in her book *Death 24x a Second* that the moving image has the power of technological resurrection. ***"The inanimate images of the filmstrip not only come alive in***

projection, but are the ghostly images of the now-dead resurrected into the appearance of life." (Mulvey 2006, 36) I knew that what I generated with AI would be an illusion, but perhaps the "appearance of life" that Mulvey references here is what I'm searching for.

Paragraph 5.2 - Ethical Dogma

I laid down some ground rules for the AI. I did not want to generate anything that I was not there to witness. How was I to know if she was happy or sad? I know for a fact that she would have been breathing, blinking, and moving ever so slightly as she looked back toward the camera. Anything beyond this would have been a lie - a violation. Once I got the prompting down, the final results stunned me. My first reaction was intensely emotional. She felt alive! Her youthful body moved naturally. There was a presence that wasn't in the photograph. She blinked as she peered back at me with her piercing eyes, her chest moving up and down as she breathed. There were signs of life. I recalled the reaction of the audience attending the first motion picture screening in history called *Baby's Lunch* by the Lumière Brothers. They were struck by the small details brought to life: the trees in the background gently blowing in the breeze.

Section 7 - Conclusion

Paragraph 7.1 - Return with Understanding

I tried the same process with more photos in the archive but once the novelty had worn off, I was left wanting and found myself back to where I had started. In a recent interview with radio producer and documentarian Sarah Kramer, she told me about her own experience using AI to generate a clone of her late father's voice from their home answering machine. "***Even if you have a really big archive, a vast archive of material, ultimately, it's like a fallacy, the idea that you would actually be able to bring anyone truly back to life. It's a fantasy. There's so many things missing. There's always gaps in the archive.***" (Kramer 2025, 9:15) Sarah's realization about the limitations of AI mirrors my own. These gaps in the archive put the critical nature of human witness and the memory it generates into bold relief. Machines can index our existence, but they cannot tell us who we are. Sarah has spent her career working within these gaps to find the stories that bring the past back to life. "***If you interview your mom about her mom, I would say nine times out of ten, you're going to hear some story you've never heard before. And you're going to have this totally new perspective.***" (Kramer 2025, 9:40) Listening and documenting these stories our elders have to share adds dimension to the past that cannot be replicated by machine. Human memory is more than just passive storage, it is active and rich with endless detail that is generated from witness and intuition.

Paragraph 7.2 - Just Existing is not enough

A recent trip to Kentucky for a maternal family reunion drove this point home, as we wandered the old family farm where my mother's ancestors had lived and worked more than a century ago. I can

still see my grandmother wrapped in a wool blanket standing at the top of a knoll and pointing toward an inconspicuous grove of trees where her great great grandmother and kin were buried. Resting under the canopy of a spruce was a small collection of stones protruding upright from the soil. The stones bore no names or epitaphs, only lichen. These were the headstones of my ancestors. If it were not for my grandmother's memory and the stories she told me about the family they honored, these stones would simply be indexed objects standing as proof that someone once existed. A photo without human testimony is just an object.

Reflection Paragraph for Professor:

I believe the AI element is fascinating and it definitely gave me the opportunity to dive into something I've been meaning to reconcile for a while now. As proud as I am of this article, I am now overwhelmed with how many questions that I discovered along the way. It turns out that some very clever folks have spent over a century meditating on this same issue, just focused on a different technology. I feel that my writing leaves something to be desired with regards to flow and connective tissue between sections of the article. The story is cohesive and steady but I could have crafted something smoother. I also do not feel as if I was able to truly transmit how emotional this experience has been. I wanted my hook to be more visceral and I wanted my nutgraf to be more urgent and relatable.