Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter now, including display on the World Wide Web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Ameer Rifai April 10, 2023

There is No Certainty: My Mind Tries in the Utmost Conjecture Photographs

by

Ameer Rifai

Jason Francisco Adviser

Film and Media Studies

Jason Francisco

Adviser

Dana Haugaard

Committee Member

Joel Silverman

Committee Member

There is No Certainty: My Mind Tries in the Utmost Conjecture Photographs

By

Ameer Rifai

Jason Francisco

Adviser

An abstract of
a thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Film and Media Studies

2023

Abstract

There is No Certainty: My Mind Tries in the Utmost Conjecture

Photographs

By Ameer Rifai

This project began back in the 1990s with my father's fascination with the newly released FUJIX DS-X, the first fully digital camera to be commercially sold. By photography moving digitally, my old man was able to take snapshots of his family when he visited Syria and the family he was building here in the United States. I took my family's old, archived pictures (Kodak Moments) from the early 90s and rephotographed them under a microscope to develop my own images. The circles were created practically using the lenses and optics of my camera and microscope. Nothing was cropped, photoshopped, or manipulated in order to create the circles before you. It's serendipitous actually, that the images I snuck out of my home in Indiana are from before my birth. So, in a way, these images are a reimagination of life before my own conception.

Acknowledgements

A lot of nights I would walk home, listening to music, looking at the moon, wondering how exactly my project was going to take form. Thankfully, with the help of my friends, family, and mentors in the Film and Media Studies Department I was be able to push this boulder to the top of my hill.

Thank you to my friends for giving me heedful advice whenever I would come running, concerned about the smallest details. Thank you to my father for your unwavering support and pushing me to strive for excellence. Thank you to my mother for nurturing my creativity and gifting me my first camera. Thank you to my siblings (Dana, Hadie, Hashem, and Jenna) for being the role models in my life. Thank you to Dana Haugaard for passionately jumping on this project and instilling confidence in my every decision. Thank you to Joel Silverman for teaching me everything I know about taking, editing, and printing photographs. Thank you to Jason Francisco for your continuous mentorship and belief that I would figure out my own path, I would not have been able to do this without you.

Table of Contents

Personal Narrative1	
Literature Review	

Personal Narrative

I always knew I wanted to combine the two schools of academia I had majored in (Biology and Film and Media studies) into one project but was unsure how to. It was suggested to me to use the long-standing scientific history within the labs at Emory to create a similar project to Larry Sultan and Mike Mandel's *Evidence*; and this project idea became my thesis proposal to the Film and Media Studies Department. I went into the summer of 2022, excited but weary that I was not in love with my thesis. As I was flipping through my notebook one evening, I found a piece of squared text. It read "Carleton Watkins...big images to be looked at under a magnifying glass...what if opposite." In the 19th century, Carleton Watkins created photographs with a giant glass plate negative. This gave the images he made an incredible amount of detail, and so, in contemporary exhibitions, they would often hand out loupes to visitors. This gave them the ability to get close and interact with the photograph. I began asking myself how I could make small images into larger-than-life photographs, and the answer came to me quite quickly. I would have to print very small-scale images and use a microscope to rephotograph them. I boxed this idea and shelved it in my brain for later exploration once the semester began. I was unsure at the time what the images would be of or how I would make them small enough to be put under a microscope, but the technicality of the project excited me beyond belief and I knew I would have to pursue it further.

When the semester came around, I suggested this idea to my thesis advisor, Jason Francisco, and it became apparent I would need to do a lot of work to get it started. I found myself a microscope through my genomics professor and started making photographs using historic film slides to better understand the apparatus and what the images would look like on camera. The translucent film slides looked beautiful under the microscope. They could be

stacked in twos and threes to create superimposed images and the grain on the film was visible through the powerful lens of the microscope. These images, although black and white, had an amber finish due to the color of light emitted from the microscope's bulb. After some trial, I found that photography through the lens of the microscope yielded a circular image on a black background. Circles are an avant-garde way to present photographs, but they were interesting to me, and so I continued forward. The novelty of the images was encouraging, and I became more excited with time. In my meetings with Jason, the questions kept arising, how would I make my own film slides? And what would they be of? The former question was answered relatively quickly, my images would be shot on Ektachrome 100 and converted into slides in a lab. The latter held onto me for quite some time before being answered.

I knew that I wanted this project to have deep intrinsic value and a personal meaning behind it. I wanted the images to reflect the deeply meaningful four years I spent at Emory and shed light on those I cared about most. When thinking about why I became interested in photography I remembered my family. It was my father who used to stay up late with me to watch old tape recordings of our family's seemingly insignificant history, it was my brother who I grew up watching explore the world through photography, and it was my mother who gifted me my first camera, and the one I still use today. Through this self-reflection, I remembered helping my mother organize hundreds of Classic Printed Kodak Moments into shoe boxes for storage. These images were my family's history. In 1989, ten years after my parents immigrated to the United States, the FUJIX DS-X released for commercial sale. My father jumped at the opportunity to purchase one and began photographing everything and anything he saw. For the most part, his photography became a culmination of his family back in Syria and photographs of

the life he was building in the United States. These old, archived images would be the subjects of my work.

Unlike the smaller film slides, which when rephotographed produced sharp and clear images, the Kodak Moments were larger in size and the material of the image did not allow all the microscope's light to be let through. This produced soft, grainy images. Initially, I was not too fond of the aesthetic that the Kodak Moments created, looking back, I wasn't patient enough with them, and I brushed them off as a hopeless experiment. I turned my sights to finding rolls of Ektachrome to rephotograph the Kodak Moments into film slides and produce the images I imagined would be my thesis. Just to my luck, Ektachrome was on back order with no timeline on its return. This left me with a couple of options, but the clearest one was to continue experimenting with the Kodak Moments. So, I went back to the lab and explored my family's history under the lens of my microscope.

When making these images, I never looked into the microscope's lens knowing what I was going to photograph. I never made an image before first sliding the Kodak Moment on various axes, adjusting the microscope's light, or refocusing the lens to see each grain of the photograph. I was less photographing these images and more searching for what stood out to me. It was the punctum I was searching for when I was looking through the microscope's lens. Magnifying what I believed to be the most important part of the image became an obsession. I began utilizing the basic concepts of framing and form to beautify the punctum. I wanted to ensure that shapes, colors, and geometry were all technically perfect so that the punctum could stand alone in the image without the distraction of anything else.

The photographs I made are all a highlight of the original image's punctum. As I worked the microscope, I got better at identifying each image's punctum. With my newly trained eyes, I

would lock onto a part of the picture, and I would not doubt that I had found the punctum. To double-check, I would remove the Kodak Moment from under the microscope to and analyze the picture as a whole to see if I would still be pierced by the minute detail I had just magnified. There were times when an image would have several punctums and I learned that each punctum pierced me differently. More specifically, when an image had multiple punctums, each of the punctums would draw me into the image in a different manner. This did not enhance the image in any way, nor did the images with multiple punctums become my favorites. They simply existed with two needles to poke the viewer with. There were times, however, when I could not find a punctum in the Kodak Moment. Setting the image aside in a "for later" pile, where I would revisit these specific images, helped to fix this issue. In certain images, I could never find a punctum. I still don't understand why this phenomenon occurs. I thought it was a matter of taste. That I was indifferent to the image, but then, wouldn't my negative emotions be created because there is a punctum in the image "wounding" me with distaste? I am still unsure why there are images that seemingly do not have a punctum.

There is a second layer to these images that I did not consider until I was done making them. Although I am highlighting the punctum of each Kodak Moment, by making a new image I am instilling a new studium and a new punctum. The punctum of the Kodak Moment is the circle in its entirety, but each image also contains another punctum that is specific to what is within the circle. Take *Untitled Photomicrographs* #279, in the complete Kodak Moment, the child with his index finger in his mouth was the punctum. After the image is cropped, however, I identified the punctum as the bright star-shaped spot slightly under the child's upper lip. The glow of this spot and the combination of yellow, green, blue, and purple create a galaxy like effect that reminds me of the feeling of wonder. I think of reaching into this section of the image

as a star gazer reaches into the sky, the feeling of almost being able to touch the stars and of knowing what lies beyond them.

Working with images that are so soft was initially troublesome. It always felt like the image I was making was out of focus. With every image, the foreground, midground, and background almost blend into each other. The ability of the microscope to magnify to show the ink stains of the Kodak Moment breaks the image into sections of color. Take the image of the boy and man in the ocean. When looking closely it is impossible to tell that the background is water. By allowing the background of the image to take up the viewer's entire field of vision the water becomes splashes of greens, yellows, blues, and purples. Moreover, the softness of each image makes the faces unrecognizable. In images with people, the brain recognizes that the subject has a face and that they are human, however, it is impossible to tell who the subject is. It is left to the imagination of the viewer to tell the remainder of the story behind each image.

By magnifying and cropping the image, there is more room for the spectator to conceptualize what is in the negative space. The part of the whole allows each spectator to "see" something different. Take *Untitled Photomicrographs #363*, my grandfather's (left) face is cropped so his whole face is not shown. The viewer uses their memories and past experiences to fill in the rest of my grandfather's form. Furthermore, questions arise if the viewer does not have context. Is the person in the back a male or female? Are my grandmothers form a person or not? When an image is aggressively cropped, and negative space is introduced, the photograph's studium is encapsulated in signification.

The black background in my image is important for the signification of the image. The circle in relation to the black rectangle creates a pulling effect on the viewer. It is as if what is inside the edges around the outside of the circle can almost be filled by the imagination. The

viewer sees a little more than what is present inside the circle. What each viewer sees is completely unique to what they have experienced in their past life, as well as where their psyche is at that specific moment. If the punctum is subjective to every viewer, then for these images the studium is as well. I question, however, where the photographs end. I am unsure whether each photograph begins in the circle and ends in the black background or whether it starts in the circle and ends in the mind of the viewer.

Review of Literature

The microscope as an apparatus is used across the nation in classrooms and laboratories to educate and analyze. It is rarely used to make photographs, and when it is, the images are used for scientific purposes (to record and archive). The images made by a microscope are unique in that they are black rectangles with the image shaped as a circle in the middle. Due to the microscope's lens being smaller than the image going under it, the image becomes significantly cropped. This causes the subject of most images to be a part of a whole, and/or the hard crop roots the image in abstraction. In my thesis, I look to investigate how cropping an image into parts of a whole alters its meaning as well as explore how family histories can be shared across generations.

The images that I will be rephotographing are my family's decades-old photographs, or as I refer to them my family's "Kodak Moments". To magnify and hard crop these images is to highlight the moments of love, that I know so well. In this literature review, I explore topics of photomicrography, science and art, photographing the dead, the power of an image, the act of looking, signification, and genealogy.

How to Photograph with A Microscope

Since the microscope is the apparatus through which I will be creating my images, I read *Photography with a Microscope* by Fred Rost and Ron Oldfield. Rost and Oldfield go into detail about all the necessary steps that come with photographing under a microscope. The ones that were informative to me are described further. Within Part 1: Basic Photomicrography I read: "Selecting the field of view to be photographed," "Determining the magnification," and "Adjusting the illumination."

The differentiation between the techniques described in *Photograph with a Microscope* and my project is the location of the camera. Typically, when creating photomicrographic images, there is a specific lens and adapter that attach to the top of the microscope. Although these tools achieve the crop I am looking for, the images produced are rectangular, that is, the entire frame of the image is filled with the subject matter. For this project, it is necessary that the images created are circular, for this reason, I will be using my camera like a scientist uses their eye. The camera will rest on the eyepiece of the apparatus. This results in a circular, cropped image with a black background.

Selecting the Field of View to be Photographed

When using a microscope, it is standard that the microscope is set to 10x objective for focusing. The specimen, or in the case of this project, the Kodak Moment, can be moved under the objective lens across the X, Y, and Z axes. For this project, I will focus solely on the X and Y axes. The Z axis can be used to superimpose transparent materials, such as film slides. The Kodak Moments are opaque, and layering two on top of each other would completely block the LED light coming from beneath the microscope. Moreover, the image or camera can be rotated in order to achieve optimal aesthetic conditions, I plan on keeping the Kodak Moments in their original orientation.

Determining the Magnification

Magnifications can range from 4x to 1000x. The magnifications multiplied by the objective give the overall magnification of the film slide (Objective * Magnification = Total Film Slide Magnification). For this project, I will be using the 4x and 10x magnifications with a priority on the 4x lens. These lenses allow the image to be magnified (and ultimately cropped)

without enhancing the image beyond the point of recognition. It is important to this project that what are cropped remains comprehensible (or at least somewhat comprehensible) to the viewer.

Adjusting the Illumination

Rost and Oldfield describe the Köhler illumination system as the "ideal form of illumination" when conducting photomicrography. The Köhler illumination system is conducted by ensuring the condenser is fully raised and the aperture diaphragm of the condenser is reduced to 2/3 of the maximum diameter. This technique has proven to be the most effective in extracting the most detail from transparent material, however, since the Kodak Moments are opaque, the microscope's LED needs to be set to its brightest setting.

Science, Art, and Photography

Photography as a science or photography as an art has had a long historic debate. Is photography science because there is chemistry involved or is photography art because it is an extension of the plastic arts? Kelley Wilder gives her thoughts on the matter in her book *Photography and Science*. Wilder believes it is easiest to settle this debate categorically. She says, "there are several ways to consider the art/science debates in the context of photography. In the first case, there is the incorporation or appropriation of scientific photographs into art institutions or the art market. The second is the use of the iconography of scientific photography in art and artists' direct investigation of scientific methods. In the third case, there is the use of scientific concepts like observation, experiment, and archiving in the making of art. In this last category, artists engage concepts important to science in order to engage in a critical dialogue about the modern world and its scientific concerns." Wilder explains that the line between science, art, and photography is extremely blurred. On one hand, one can "steal" scientific photography (with the original and only use being for science) and call

it art. On the other hand, science can be used intentionally to critique the modern world.

Therefore, it is impossible to settle on one answer. I believe my work falls under the third order that Wilder describes. The photographs I have created use scientific concepts to make art.

Utilizing science as a tool to achieve the creative goals I have put forth means that my work falls under the subject of art with science as the mechanism from which it is conceived.

Photographing the Dead

Due to the nature of my project, in that some of the subjects in my family archives have passed away it is important to understand the relationship between death and photography.

Postmortem photography was invented in 1840 and came about as a way to "preserving the exact image of their dead for posterity" (Rinhart and Rinhart 1971. p. 323). This practice was strictly American and came to fruition because of the relative simplicity of the American daguerreotype. The images produced were typically made by professional photographers who advertised their practices as images of "likeness." Meaning that most postmortem images produced between 1840-1880 looked the same. The commonalities between the images were for the subject to be laid on a draped couch or bed, the lighting to be flat, their eyes closed (which portrayed as "sleeping"), and clothing was typically to be store-bought. Moreover, the subject's full body is never photographed with the images always being cut off at the knees. Their expression is a neutral one and postmortem images seldom show "some unique characteristic of the subject."

This enhanced the reality of the image and further illudes the viewer to believe that the image is of the subject asleep.

Postmortem images were constructed to serve as a memory, and nothing more. Can a photograph that shows no personality, characterization, or identity be marked as a memory? I do not think so, and I believe that the likeness of nineteenth-century postmortem photography is the

reason it perished over time. As camera technology became more advanced (the Kodak brownie and affordable replaceable flash bulbs) the daguerreotype began to disappear as a medium, and postmortem photography disappeared with it. Family members began to photograph their own loved one's funerals. Moreover, they were able to photograph family members before they passed away which invalidated any reason to use a professional postmortem photographer. Photographing someone before they pass, when their eyes still sparkle, or they are looking pensive is the core of this project. Moreover, highlighting the tenderness of the ones we love allows their memory to live deeper within us.

Portraying the dead dates back to the Victorian and was seen as a morbid practice, this viewpoint was adopted after 1880 when postmortem photography eventually died out. The thought of having a deceased and artificially posed family member in photo albums was troublesome to many Americans. Americans went on to destroy or sell their postmortem images and many postmortem daguerreotypes were either lost forever or stored in antique collections. As stated above, the innovations of photography have allowed family members to be photographed before death, and memories of loved ones became personalized. These personalized images are what was captured in my family's Kodak Moments. Rephotographing personal images or images of the dead becomes a way of highlighting the importance of the operator's history. The story told by those who came before is retold from the perspective of the rephotographer. Therefore, just as histories are passed down orally or through a written text they can be inherited in photographs.

How We View an Image

Camera Lucida by Roland Barthes reflects on what a viewer does to a photograph and vice versa. My biggest takeaway from Camera Lucida is what Barthes calls the "studium" and

the "punctum." The studium, as Barthes puts it, is an "enthusiastic commitment." Moreover, the studium is the initial attraction a viewer has to a photograph, it is what draws them in. That, however, is all the studium does. The studium is a surface-level interaction, it intrigues the viewer to take an initial look at the photograph, but it does not fixate their sight. It also does not engage the viewer past a visual level. Moreover, if the image only contains the studium, the viewer's mind abstains from reflecting on the image. Finally, the studium tells you about the indexical qualities of the photograph (for instance, the era it was taken, the people in it, and/or the location it was taken). The punctum, on the other hand, extends out of the image to "pierce" and "wound" the viewer. Moreover, the punctum is how an image attracts you to stare at it. The punctum latches on to the viewer because they want to understand more about the image before them. The punctum's power is in that it allows the image to stand alone, without the need for an observer. Typically, the punctum is a small detail, (the belt of an outfit, the texture of the road, or the placement of a flower) that is hard to quickly notice or bring into consciousness. This minute detail draws the viewer into the image, keeping them interested, and ultimately, altering the viewer for good. That is the power of the punctum, to insert power into the image and alter the observer forever. It should be said that the punctum varies between viewers. No two viewers will see the same punctum. Due to the subjectivity of the punctum, a paradox arises. Barthes explains that the punctum is "created" once the image is shot, however, the punctum is "added" by the observer when they are punctured by it. Because of this paradox, to Barthes, the photograph is simultaneously dead and alive. Dead because a photograph is a snapshot of a moment past, a moment that previously existed but no longer exists. It is alive because viewers put life back into the photograph when they are pierced by the punctum. Furthermore, Barthes goes on to explain that a photograph has two "viewers." The "operator" and the "spectator." The operator is the

viewer that takes the photograph. They look through the viewfinder, select the aperture, adjust the focus, and finally decide when (and whether or not) to press the shutter button. The spectator views the image that the operator creates and asses the studium and punctum. As mentioned earlier, no two viewers' punctums are the same, therefore the punctum of the spectator is never the same as that of the operator. In fact, Barthes explains that the photograph the operator sees through the viewfinder is never the same as the one the spectator sees later on. Therefore, if we consider the operator to be the first mediator between the real world and the photographic world and the spectator to be the second mediator, then the rephotographer is the third. Each time the image gets screened it changes in meaning because its punctum changes. The operator looks in order to document, create, and conceive photographs. The rephotographer reviews in order to learn, alter, and remake photographs. The spectator examines in order to experience, contemplate, and critique photographs.

Margret Olin critiques Barthes's writing from *Camera Lucida*. In *Touching Photographs*, Olin suggests that the world we live, experience, and attach ourselves to alters the presence of the image. She puts a magnifying glass on Barthes's explanation of the punctum (and his writing as a whole). Olin finds many errors in Barthes's analyses, for example, a necklace on a woman, (which Barthes determines to be his punctum and incorrectly identifies as a gold chain), is actually a set of pearls. Yet, in Barthes's writing, he hyper-focuses on the "gold chain," (actually a set of pearls) and elaborates that it is identical to the one his aunt used to wear. Olin suggests that this is because Barthes had some kind of emotional or childhood connection to his aunt. Although the photograph is a connection (or as Barthes) says a "ray of light" that literally and figuratively connects the viewer with the referent, the photograph is also a representation of the memories held within the spectator. Moreover, Olin explains that our past experiences can

influence the way we interpret what we see. Olin says, "Camera Lucida suggests that the most significant indexical power of the photograph may consequently lie not in the relation between the photograph and its subject but in the relation between the photograph and its beholder" (p. 69). Is it possible then that the referent [subject] in the image is only partially important to the spectator's reading of the image? The majority of the reading, then, takes place in the memories and past experiences of significant events, in childhood, or in the mundane experiences of the "every day." As Olin describes, this would make images a network. The necklace a mother used to wear or the nervous way a child held their hands all play into what photographs the spectator cares about and what photographs they do not.

The Act of Looking

The act of looking (and seeing) is a narcissistic action. As James Elkins describes in *The Object Stares Back* when someone "looks" they are seeking to take, learn, or acknowledge something. Looking is not as causal as it is made out to be. The desires of the spectator are always active, wanting to see more. Seeing, then, is just as much intrinsic as it is extrinsic. Elkins uses writing about an image or a painting as an example. He explains that when someone writes about an image or painting, they write as though the image has not affected them in some way. This form of writing strips the work of art of any intrinsic significance and objectifies it. Elkins also explains that the place, time, and overall ambiance of an image (or painting) alters the way we look at it. The Mona Lisa would not be as revered of a painting had it been hanging in a living room. The Louvre adds to the grandness of the Mona Lisa and helps to make it even more of an icon. Moreover, if the Mona Lisa were to be hanging in a living room, it would alter the spectator differently than it does hanging in the Louvre. The environment the image is in can have a large effect on how the image interacts with the spectator. Elkins builds on this,

explaining that the spectator is looking to be altered by the image. They crave the feeling of being poked by the punctum. A Christian wants to feel spiritually connected with a painting of Christ on the cross whereas a Muslim may feel perplexed or curious when looking at the same work of art.

Elkins expands, mentioning that the spectator is curious by nature. They want to see what is not typically seen. Seeing something that is not usually seen can affect the spectator more strongly and force the image to become a spectacle. A microscope, for example, can extract the fibers of paper or the inner workings of a cell. What is seen and what is not seen are just as important. There are images (and instances) where the spectator is too disgusted to look at the image. For example, a pornographic image may cause the spectator to quickly flip the page or slightly glance at it. These are images that are seen but do not want to be seen. There are also images that do not want to be seen because, aesthetically, they are unappealing to the viewer. Although this is typically unwanted by a photographer, I do not think it is easy to control, and I will not be making my images based on the aesthetics of others but on what is meaningful to me. I do, however, want to ensure that what I am rephotographing is executed to the highest degree. The images I make although will not appeal to all aesthetics are meant to cause reflection on how our brain fills in images and what the construction of an image entails to the viewer. Therefore, "what we don't see" is just as important to my project as what we do see. The negative space brought upon by the circle creates a space to let thoughts roam and develop. Elkins emphasizes that the tools we use to "see" also have vision. The microscope can see in its own right. This form of vision is understood through the bulb the microscope uses to *illuminate* what it sees. The objective lenses see what is being illuminated and transmit what they see into the eyepiece. We

then as scientists, viewers, or photographers relish in the vision of the microscope and they see us back.

Filling in the Negative Space

Peter Mendelsund's What We See When We Read explains the intricacies of reading through signification. Mendelsund explains that every reader experiences a sentence differently. For example, the sentence "She ran down a steep hill in Autumn" could be envisioned in a variety of ways. How young is the girl? How large is the hill? What does Autumn mean to the reader? These questions can be done for every word in the sentence above. Moreover, signification in images creates a shift from classical photography. Most photographs are shown as a whole, the photograph leaves the spectator without the ability to imagine anything past the photograph before them. Subjectivity exists within the image's punctum; however, the photograph as a whole image does not exercise the spectator's imaginative muscles. By magnifying and cropping the image, there is more room for the spectator to conceptualize what is in the negative space. The image being a part of the whole allows each spectator to "see" something different. For example, an image of just an arm with the remaining space being black can be imagined differently by different spectators. Are they a man or a woman? What are they wearing? Are they tall or short? When an image is aggressively cropped, and negative space is introduced, the photograph's studium is encapsulated in signification and therefore, the subjectivity of the photograph is heightened.

Furthermore, Mendelsund explains that the significance of sentences and what we imagine when we read is influenced by our memories. Mendelsund uses Anna Karenina as an example. Anna Karenina is never fully described by Leo Tolstoy, what each reader sees when they do read her descriptions can be attested to the reader's memories just as much as the

author's words. Every Anna Karenina imagined is different because every reader has a different set of past experiences from which to frame their imagery. The memories we accumulate over years of life are essential to how signification is played out in the mind of the reader. This translates over to aggressively cropped images as well. Referring back to the example above (about the cropped arm), the spectator's memories influence the way they fill in the negative space of the image. If someone has a little brother, they may imagine this arm attached to a toddler. When in reality the arm is that of a twenty-year-old man.

Finally, Mendelsund speaks to the vagueness with which we envision an author's words. Mendelsund expands by explaining that when we picture characters in books, we picture them as parts of a whole. Anna Karenina, for example, is incredibly difficult to imagine in full. It may be possible to picture her eye, hair, or entire head. Imagining Anna as an entire being requires "will" and "focus." Descriptions do not yield a total imaginative embodiment of someone (as photography easily does). Books (and reading) use descriptions to input parts of the character into the mind of the reader, and this causes a discernible vagueness in the brain. Mendelsund theorizes that this vagueness arises because our "visual memories are vague." I wonder if this is the same for photography and whether our vague memories cause us to fill in the negative space in whole or parts.

Genealogy

In *Believing is Seeing* Errol Morris writes that reconstructing a family's history and keeping the memories of those that came before us existent is an important project for any lineage. Looking back on photographs, letters, and news articles to construct a timeline or family tree are often lifelong projects that grandchildren (and great-grandchildren) take on. Keeping the stories of those that came before us protects a family from lost histories. Morris asks the

question, why do these people matter? How did they live? What stories did they have to tell? How do we pick what matters and what does not? Morris highlights these questions with a small news article about a deceased father which later turned into a wild goose chase to understand the life (or a portion of the life) of a man who become an icon of his time. Deciding what material is relevant and what is not is essential to the family photographing process. Morris highlights the difficulty of building a network of stories through archived data. This is true for photographs as well, the stories that arise (from before and after my birth) are going to need to be constructed, although, I am curious how the work of scale will alter the reconstruction of the portfolio of family images.

References

- Barthes, Roland, and Richard Howard. *Camera Lucida: Reflections on Photography*. Hill and Wang, 2006.
- Elkins, James. "Chapter One: 'Just Looking." *The Object Stares Back: On the Nature of Seeing*, Harcourt, San Diego, CA, 1997, pp. 17–45.
- Elkins, James. "Chapter Three: Looking Away, And Seeing Too Much." *The Object Stares Back: On the Nature of Seeing*, Harcourt, San Diego, CA, 1997, pp. 86–124.
- Elkins, James. "Chapter Two: The Object Stares Back." *The Object Stares Back: On the Nature of Seeing*, Harcourt, San Diego, CA, 1997, pp. 46–85.
- Mendelsund, Peter. What We See When We Read. Vintage Books, 2014.
- Morris, Errol. "Chapter 6: Whose Father Is He? (Parts 1 and 2)." *Errol Morris: Believing Is Seeing (Observations on the Mysteries of Photography)*, Penguin Press, New York, 2011, pp. 221–272.
- Olin, Margaret Rose. "Chapter 2: Roland Barthes's 'Mistaken' Identification." *Touching Photographs*, University of Chicago Press, Chicago, 2012, pp. 51–70.
- Rost, F., and Ron Oldfield. "Part I: Basic Photomicrography." *Photography with a Microscope*, Cambridge University Press, Cambridge, 2000, pp. 1–64.
- Rost, F., and Ron Oldfield. "Part II: Microscopy." *Photography with a Microscope*, Cambridge University Press, Cambridge, 2000, pp. 65–118.
- Ruby, Jay. "False Conceptions and Misperceptions Styles of Photographically Representing the Dead." *Secure the Shadow: Death and Photography in America*, MIT, Cambridge, MA, 1999, pp. 50–85.
- Wilder, Kelley E. "Chapter Four: Art and the Scientific Photograph." *Photography and Science*, Reaktion Books, London, 2009, pp. 102–128.