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Explorations in the Gray Morality of Conservation

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Explorations in the Gray Morality of Conservation

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Contents

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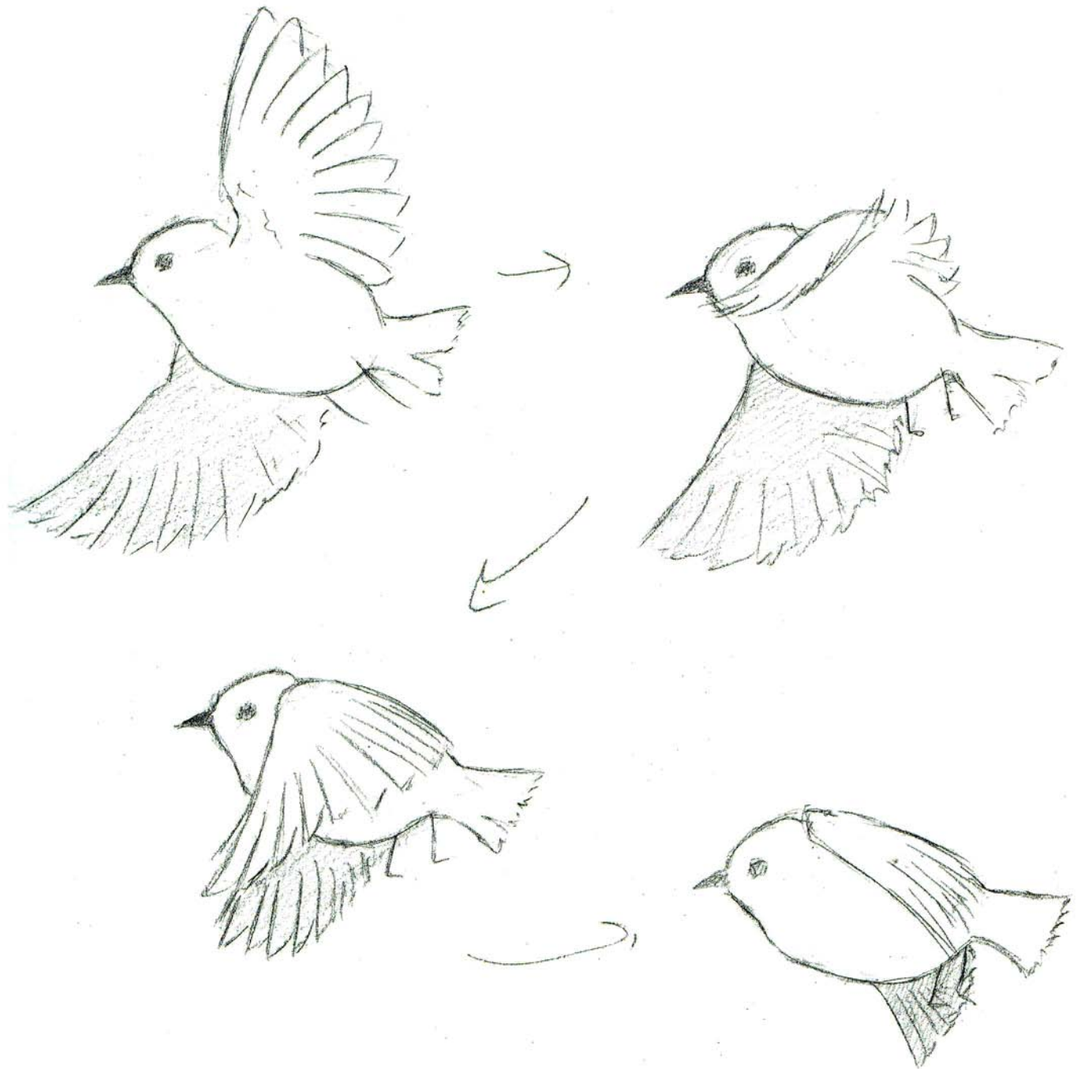


Artist Statement

I am interested in the areas of gray morality associated with conservation science. This science focuses on the protection of biological diversity primarily through the protection of species and their environments, and the management of human impact upon these.

This interest was sparked by personal explorations in scientific illustration and the field of conservation. The scientific observations and dynamic illustrations of John James Audubon led to my focus specifically on birds.

Similarly vital in realizing this interest were initial studies of motion I created through animation. Animated studies of motion, as fabrications of life, evolved into an interest of how we study living things.

For education, we capture, kill, and display. Opportunities for education come at a cost. For conservation, we remove, relocate, reintroduce, and remodel. Conservation science can be successful in the preservation of biological diversity, but we cannot forget the costs of our successes and failures.

In my art, I hope to bring the gray morality of conservation science to light.

Earlier works of animation embodied methods of conservation through artistic processes. Animation captures life through the display of the dead. In essence, animation is a rapid display of still images. These images, drawn from life, capture and still the motion of an organism, in a sense killing it. This "dead" creature is later displayed as the animation, an imitation of something alive.

My recent work is concerned with presenting specific stories in the study and conservation of animals. The results of current and past stories are presented physically and literally, making them impossible to ignore. Previous pieces were metaphorical in nature and were often overlooked. There is something about physically witnessing a representation of a creature that gives it more life, makes it more real.

I want to bring forth stories that many people are unaware of, to show that there are costs to our knowledge. Gray morality is prominent within the scientific fields. I want to present this morality as alarming, but neither right nor wrong. Without taking either side on these issues, I want others to form their own opinions on the costs of success in studying and conserving the natural world.

Prelude

The fusion of personal and external influences founded the starting point of my creative process. While interests transformed throughout the evolution of my work, these influences continually shaped the pieces, and are thus inseparable from my art.

Left: *Flock*. 2013. Print. Past work example.

Personal Fascinations

Personal interest in avian movement and form, present in my past work, led to my focus on birds as a subject in this series of work.

Specifically, I find powered flight in nature irresistibly attractive. Avian flight appears to be effortless, but is quite complex upon closer inspection. Details of flight mechanics were introduced to me in an ornithology course, where my attraction to the movement was further augmented. A passion for flight provided an anchor from which this series of work began.

Later on, scientific illustration became influential in the creation of these pieces. Being a student of both art and science, I was inevitably drawn to this field as a bridge between these two disciplines. By studying scientific illustration, I was able to build my own bridge between art and science in these works, thus presenting the knowledge embedded within my work to a wider audience.

Above: *Flight Triad*. 2010. Digital Photograph. Personal photograph.

External Influence

Pursuing my personal interests led to the discovery of influential artists and institutions for my work. Several artists in particular were essential in creating this body of art.

John James Audubon is perhaps the most significant influence. An artist and naturalist active during the 1800s, Audubon is mostly known for his illustrations in the Birds of America (Audubon and Davidson 1966). These illustrations showed species in their natural habitats in dynamic poses doing natural behaviors. Several individuals were often drawn on the same page to show social interactions and sexual dimorphism (Audubon and Davidson 1966; Audubon, "Original Water-color Paintings" 1966). These works were unprecedented at the time they were created, and carved a path for the future of scientific illustration. I was quickly drawn to Audubon as a prominent figure in the history of scientific illustration who focused on birds.

Audubon's influence is still evident in contemporary works, such as in the art of Walton Ford. Ford's paintings illustrate animals and their environments at a level of realism reminiscent of Audubon's work ("Walton Ford" 2014). Unlike Audubon, Ford's work does not serve a scientific purpose. This re-purposing of scientific illustration style sparked my interest early on during the creative process.

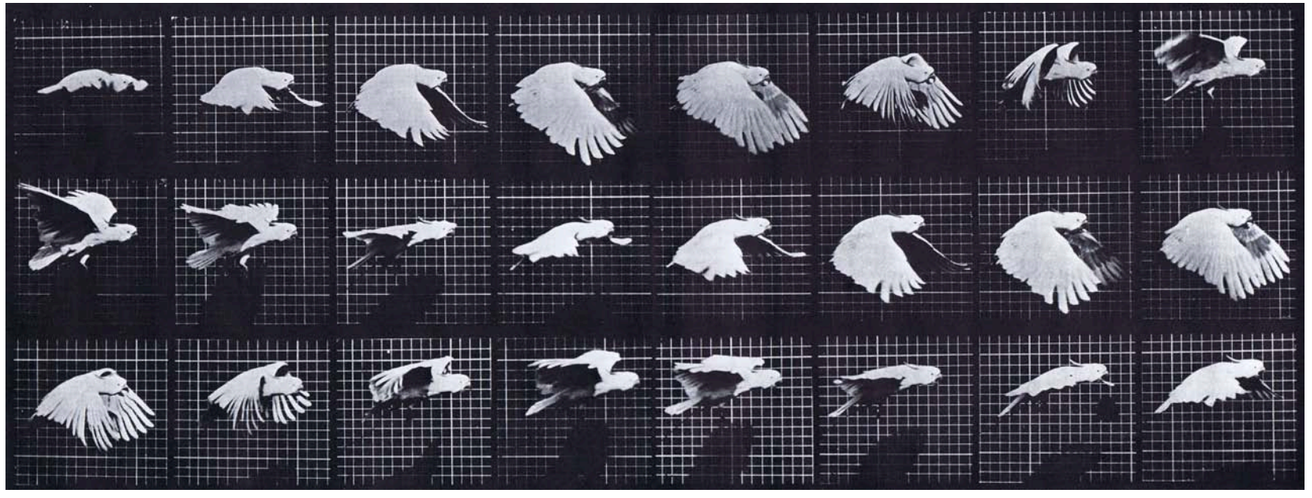
Left: *Study, Audubon's Bewick's Wren.* 2014. Watercolor and pen.
An attempt to recreate Audubon's illustration of Bewick's Wren.

Scientific illustration is not the only method of studying animals within art. With the invention of chronophotography, Eadweard Muybridge and Étienne-Jules Marey were able to capture movement by taking several photos in rapid succession (Braun and Marey 1992; Mozely and Muybridge 1979; Muybridge 1979; "No. 826 Marey and Muybridge" 1988-1997). The process was used to photograph movement, breaking it down into images that could be studied. In looking at a series of images (or a single image capturing several stages of movement), animal locomotion could be studied more carefully than ever before. For example, the movements involved in a horse's gallop were discovered due to Muybridge's contributions, and Marey was the first to study the mechanics of bird flight in extreme detail (Braun and Marey 1992;Mozely and Muybridge 1979). This study of movement was personally attractive, due to the previously mentioned interest in bird flight.

Aside from connections with scientific studies, another prominent influence on my work is the work of Jim Hodges. Hodges uses a variety of media in his pieces, and fabricates living things in his work. Using "unnatural" or "nonliving" materials, he creates art that appears to be living, or gives off the impression of possessing "life" (ICA 2014; "Jim Hodges: Give More Than You Take" 2013). The concept of fabricating life sneaked into my art several times within the creative process, with Hodges' work hovering in the back of my mind.

Other artists, such as Lucia deLeiris, were also influential in my work simply for their beautiful rendering of animals (DeLeiris 2011).

Beyond the work of individuals, exhibits in natural history museums and zoos were similar influential sources. Both establishments are involved in the study and conservation of animals, which drew my attention later in the artistic process. While growing up, I often visited both types of institutions in order to learn more about animals. As a result, I built up a large library of photographs over many years, which initially drew me towards these two establishments during the creation of my work.



Above: *Plate 759. Cockatoo Flying.*
Eadweard Muybridge. 1887. Print.

Foundation

[the start]

My early works focused solely on studying motion in birds. Personal interest led to the use of birds as a subject and to studies specifically of flight.

Initially, I created short animations, looping static images of bird flight. Most of these animations involved no tracing, with each frame being drawn next to another. Each frame was dull on its own, but once the individual frames were put together in an animation, it was if the drawings had gained life. Intrigued by this, I researched the literal definition of 'animate' to find " (v) to give life to; make alive " ("Animate | Define Animate" 2014). This led to the question:

What qualifies as life?

Researching various definitions of life, all definitions appeared to include the ability to "grow and change" ("Life – Definition" 2014; "Life | Define" 2014; "Definition of Life" 2014). This began developing into an interest in fabricating life, which was largely influenced by the artist Jim Hodges.

At the time these thoughts on life fabrication ended up being a dead-end, but they re-emerged in the processes of creating other works.

Left: Frames from *Flight Study 0*, Pen on paper.
Opposite: Frames from *Flight Study 1*, Pencil on paper.
Animations can be viewed at awhitlockthesis.weebly.com

Above and Opposite: Frames from *Heron Flight Study*, Marker on plastic sheet.
Animation can be viewed at awhitlockthesis.weebly.com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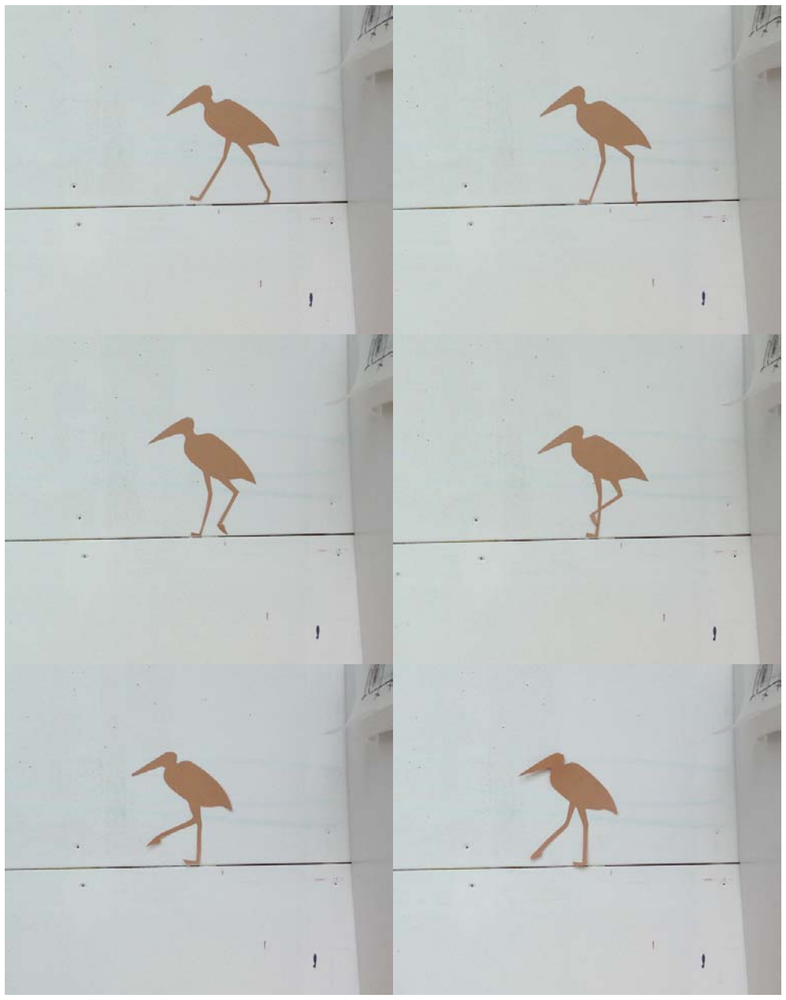
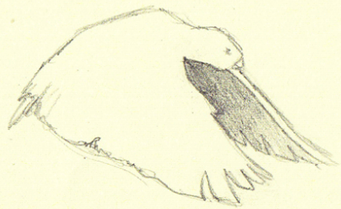
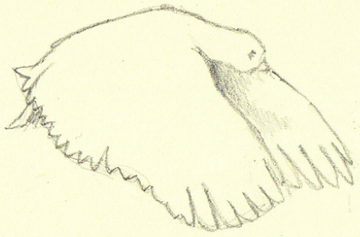
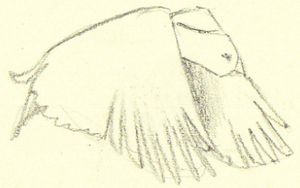
To create the animations, photographs and videos of flight were studied intensively. The chronophotography of Muybridge was an excellent resource for this, since flight motions had already been divided into frames (Muybridge 1979). Studying chronophotography was later dropped, as studying motion from videos—perhaps predictably—proved to be more fruitful.

The animations were mainly sketched onto various types of paper, with the subjects being drawn in a realistic yet simplistic manner. Less detailed forms directed attention to the movement of the form. Exceptions to this process were the use of plastic sheets for one animation, and the use of paper cutouts instead of drawings for the frames of another animation.

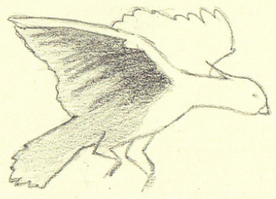


Left: Frames from *Walking Study*, Cut paper on wall.
Opposite: Frames from *Flight Study 2*, Pencil and paper.
Animations can be viewed at awhitlockthesis.weebly.com



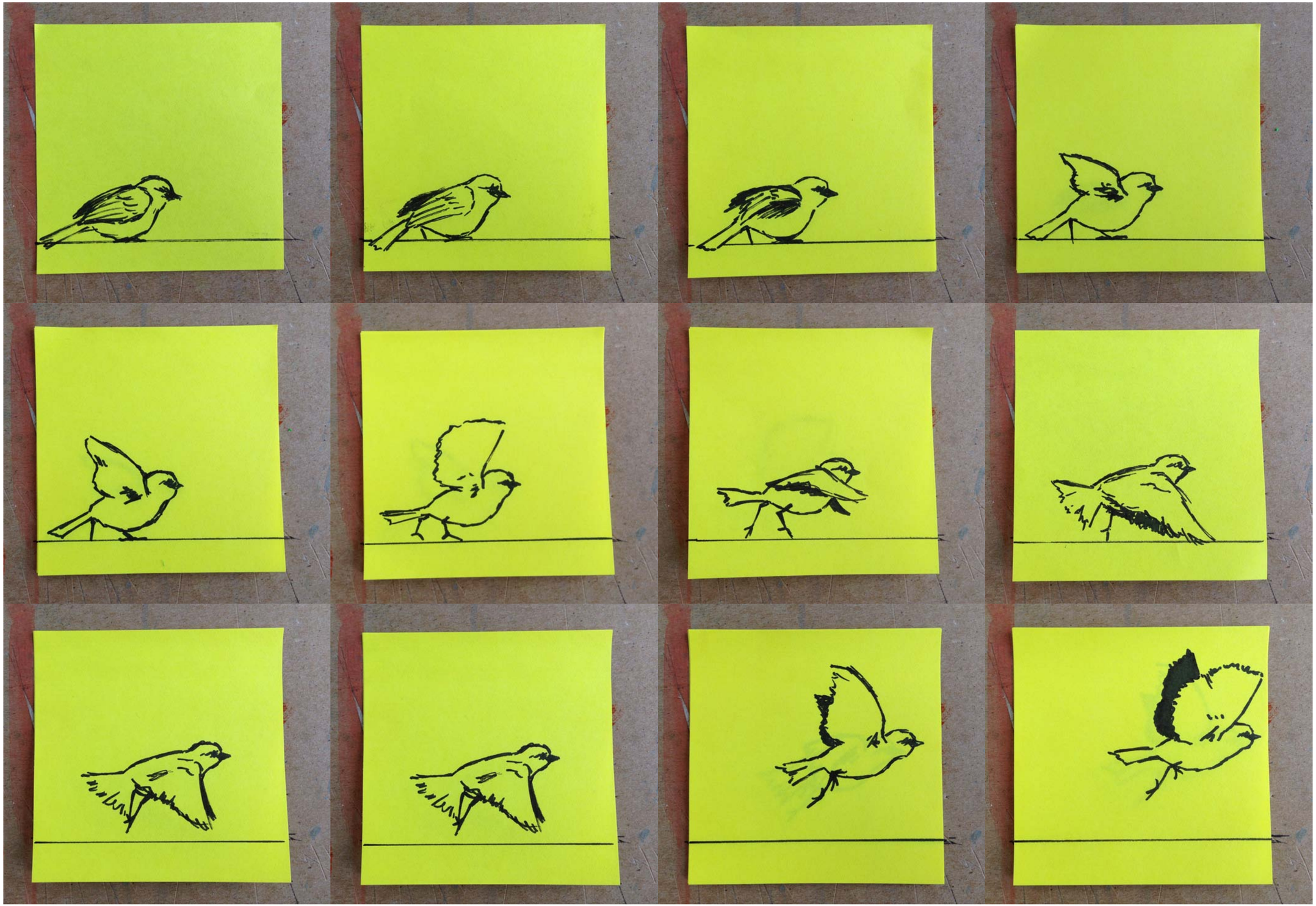



Flight motions varied slightly among species, so each species drawn had to be studied independently. Small details about the general motions of flight were similarly discovered. For example: the up-stroke is slower than the down-stroke; the primary feathers separate in the intermediate stage going from the up-stroke to the down-stroke; different wing shapes lead to different kinds of flight. From a scientific standpoint, these details were fascinating.

In the process of studying flight, I began to wonder about the processes of studying animals. I felt as though my process reflected naturalists of the past, observing animals to gain knowledge and then presenting that knowledge through art. While my process was a bit more artificial (looking mainly at videos), some essence of the process felt similar. Differences aside, scientific illustration continued to draw me in. Moving from this point, new questions arose:

What processes are involved in scientific illustration, both currently and historically?
What methods are used to study animals specifically for scientific illustration?

Opposite: Frames from *Sparrow Flight Study*, Marker on paper.
Animation can be viewed at awhitlockthesis.weebly.com



Evolution

[the epiphany]

Growing interest in scientific illustration and the processes of research on animal studies led to a divergence in my animations.

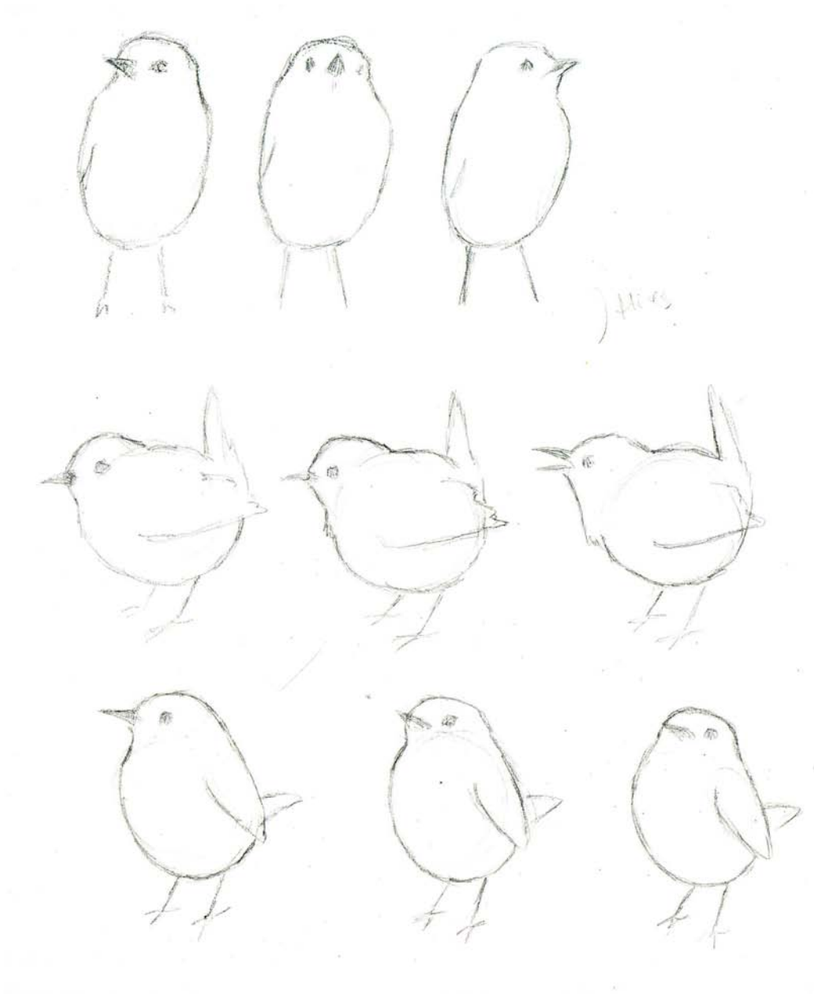
My work began to reflect knowledge of how humans study animals. Zoos and natural history museums initially drew my attention as methods for such studies. These two institutions came to mind after looking at my old photographs at both types of institutions. Having accidentally combined the two collections of photographs, I decided to separate them by institution. Looking at the photos with no knowledge of their location, it was difficult to differentiate between which exhibits were from zoos and which were natural history museums. After some analysis the main difference became clear; the museum exhibits had more natural-looking habitats (with more species within them) than those in the zoos. The difference in the habitats was both a startling and unsettling discovery.

Zoos currently exist to aid in conservation efforts, but there are limitless concerns about holding animals in captivity (Fa and Funk 2011). While zoos can be exceptionally helpful in captive breeding programs for endangered species, the environments in which animals are kept is a massive concern (Fa and Funk 2011; Bostock 1993).

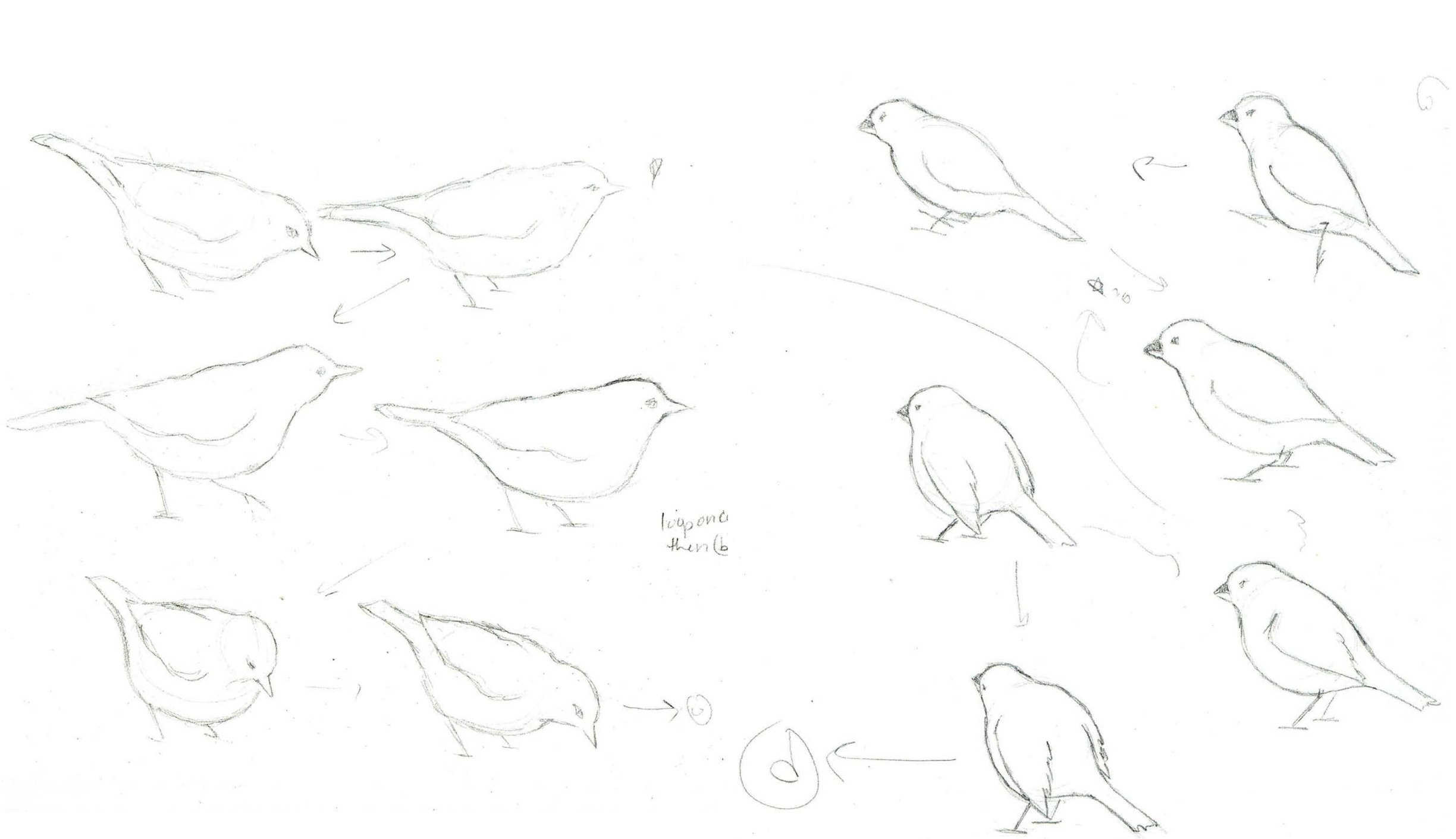
Left, Top: Photograph from a zoo.
Left, Bottom: Photograph from a natural history museum.

Questioning the living conditions within zoos inspired the creation of the short animation *Enclosure*. The animation appeared to have a circular window in which animals were contained. Although a background was considered, the animation proved to be more effective without a background. This reflects the sparse accommodations in inappropriate zoo enclosures (Bostock 1993). Zoos are currently developing more natural habitats for exhibits, but there is some conflict over this change as this can make animals difficult to see. The birds were drawn in a simplified style, yet still retained enough detail to identify them as a species of wren, sparrow, and thrush. While *Enclosure* still heavily involved studying motion, other ideas started to be integrated into the animations.

Rendering the animation itself was exceptionally difficult for this piece. Each bird was drawn separately, and then all three were put together in a single animation on the computer. The frames were often drawn side by side; this made the process tedious but allowed for an easier view of the flow of movement. Rendering of the birds was simple and reduced, matching their vacant habitat.



Left: Frames from *Enclosure*, Pencil on paper.
Animation can be viewed at awhitlockthesis.weebly.com/evolutionepiphany



Above and Opposite: Frames from *Enclosure*, Pencil on paper.
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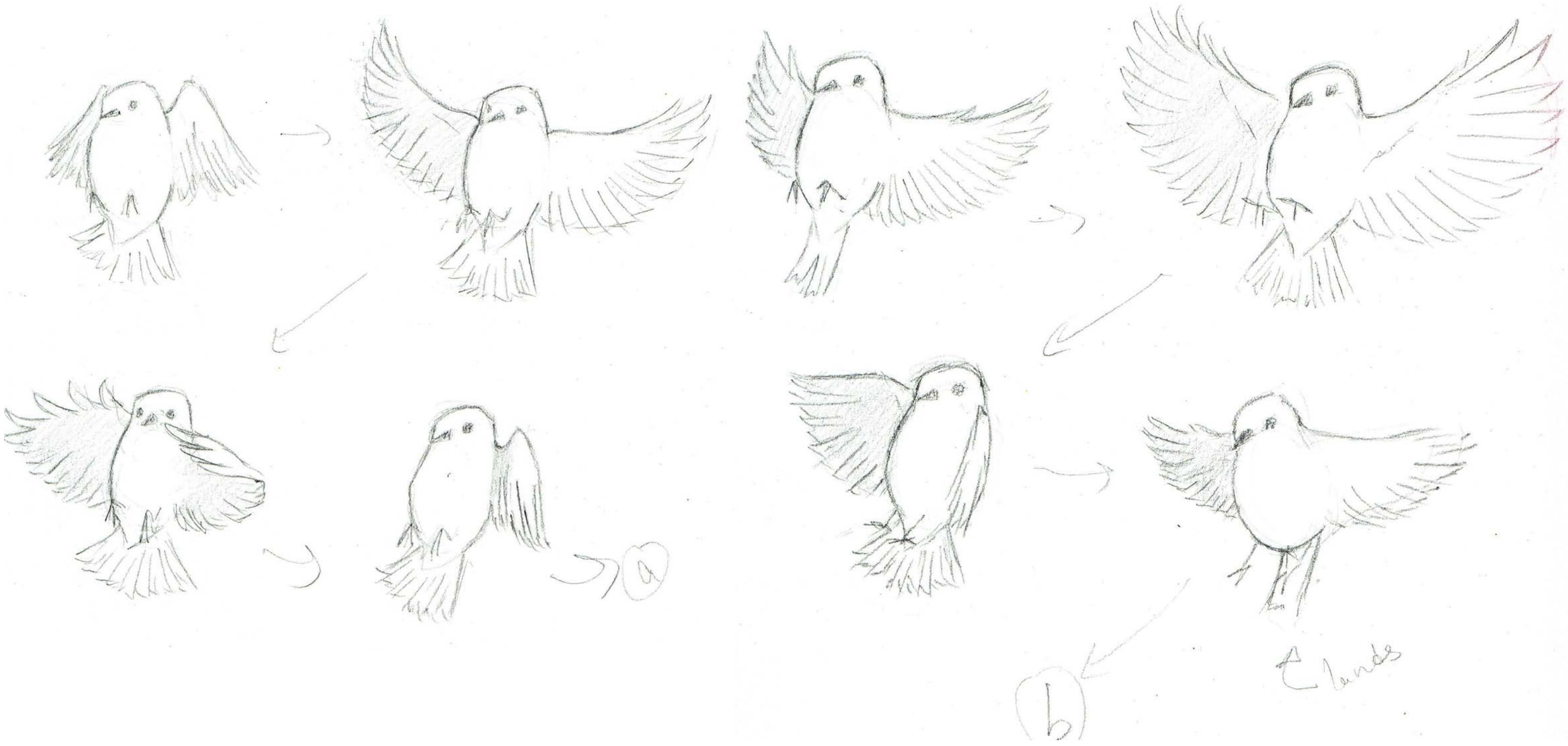
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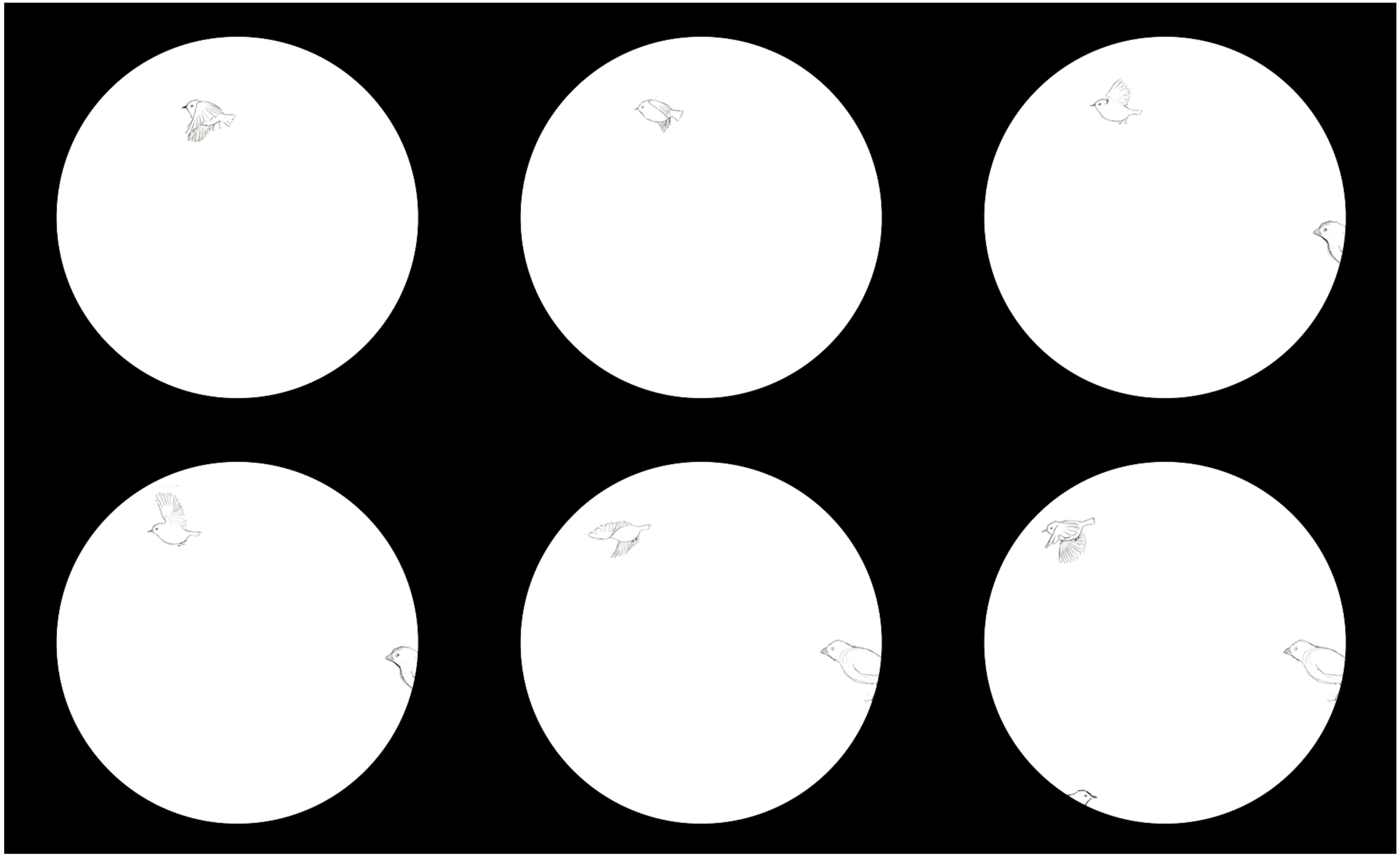

Above and Opposite: Frames 32-42 from *Enclosure*, Pencil on paper and digital.
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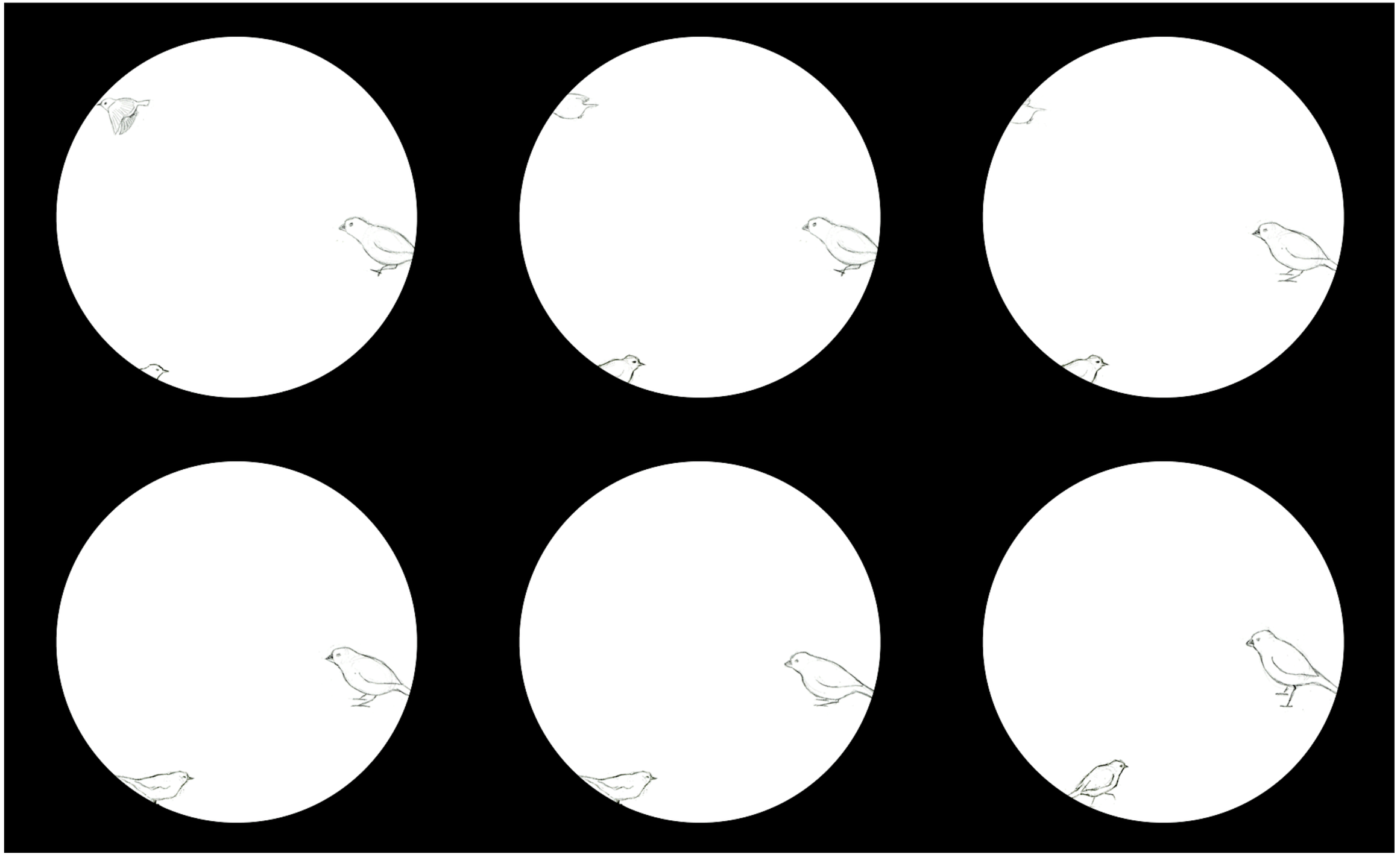


The short animation *Display*, which was less successful, was created with natural history museums in mind. The animation is mostly still, with occasional small movements and calls from the main subject (an eastern screech-owl). Natural history museums present a type of moral conflict; while the institutions can be invaluable for learning, they are also full of dead animals. The majority of animals in these museums were from old expeditions (here concerned with ornithological expeditions), in which large quantities of specimens were collected. It is important to note that specimen collection still occurs today, but at a much smaller scale ("Biodiversity Institute & Natural History Museum" n.d.; "Ornithology" 2015). More recent specimens are often birds that were accidentally killed in collisions with buildings or vehicles; members of the public often donate these newer specimens.

Natural history museums, scientific illustrations, and naturalists have historically used a method that I shall simplify to "capture, kill, display". Animals are captured, killed, and then displayed literally in taxidermy at museums and other scientific institutions (such as colleges, where they are used for study). In scientific illustration, the "capture, kill" has historically been literal, while the "display" was abstracted in the illustration of the subject. This is most famously evident in the illustrations by John James Audubon. Audubon obtained specimens from the wild (or from others who had taken them from the wild), killed them for study, and then displayed them through his art (Audubon, "Bird Biographies" 1957). These animals were typically studied in their natural habitats as well, and this knowledge was integrated into his work (Vedder 19-22).

Left: Sketches for frames in *Display*, Pencil on paper
Opposite: Frames from *Display*, Pencil on paper and digital.
Animation can be viewed at awhitlockthesis.weebly.com/evolutionepiphany

Mulling over this, I realized that this process was abstractly present in my own animations.

Animation captures life through the display of the 'dead'. In essence, animation is a rapid display of still images. These images, drawn from life, capture and freeze the motion of an organism, in a sense killing it. This 'dead' creature is later displayed as the animation, an imitation of something alive.

This epiphany led to an explosion of questions, which shifted my focus.

What issues of morality are involved with conservation and the study of animals?
Although the methods of study change over time, what moral issues have been emerged, been rectified, or simply evolved?

Concerns for methods of conservation—such as removal, relocation, and reintroduction—were born from this epiphany. While these methods have been very successful in many of their applications, we cannot forget the failures of their applications and the risks that accompany them as well. Additional moral concerns rose from this.

To begin addressing these concerns, I first focused on the ideas of 'relocate and 'removal'. To visually represent this idea, Absence was created. The piece began with making a large painting of a forest, referencing personal photographs taken of the Connecticut College Arboretum. On top of the painting, four silhouettes of different bird species were cut from white paper and applied to the painting. These species (black-capped chickadee, Carolina wren, white-breasted nuthatch, song sparrow) are found in the arboretum, and were found there historically (Askins 1990).

What if, for some reason, these species were actively relocated for conservation purposes? In conservation, populations can be relocated to more suitable environments, or reintroduced to environments where they were historically found. In these cases, what happens to the environments that the species are being removed from?

Left: Early study for *Absence*, Acrylic on canvas.
Opposite: *Absence*, Acrylic on paper with paper cutouts.

Influential in this evolution of ideas was a course I had been taking, Conservation Biology. Methods of conservation I had previously been unaware of were brought to light, expanding my understanding of conservation processes.

In this course, I was introduced to the story surrounding the Kirtland's warbler. This species is restricted to a certain type of habitat, which had been in decline as a result of human activities ("Kirtland's Warbler (Setophaga Kirtlandii)" 2014; Elbert and Mensing 2010). Correlating with this, the warbler populations declined to the point where the species was deemed endangered (Elbert and Mensing 2010; Benson and Lovell 2010). Conservation efforts were created in response to this ("Kirtland's Warbler (Setophaga Kirtlandii)" 2014). However, restoration of the species' habitat did not stop its decline. After more research, it was discovered that brown-headed cowbirds had been extensively parasitizing the nests of these warblers ("Kirtland's Warbler (Setophaga Kirtlandii)" 2014; Elbert and Mensing 2010). Cowbirds are not native to the warblers' habitat, and invaded this environment after people cleared parts of Michigan for agriculture. As a result, the warblers were not adapted to the relatively new cowbird parasitism. To combat the cowbird effect and save the Kirtland's warbler, cowbirds have been continually removed from the habitat. This effort resulted in an increase in the warbler populations, and may have saved the Kirtland's warbler from extinction ("Kirtland's Warbler (Setophaga Kirtlandii)" 2014; Elbert and Mensing 2010; Benson and Lovell 2010).

Saving the warblers did, however, come with a cost. Roughly 4,000 cowbirds have been removed from the warbler's habitat every year from 1972 to the present day ("Kirtland's Warbler (Setophaga Kirtlandii)" 2014). The cowbirds captured are used as decoys to capture more cowbirds (Elbert and Mensing 2010). All birds captured within the traps are euthanized (Benson and Lovell 2010).

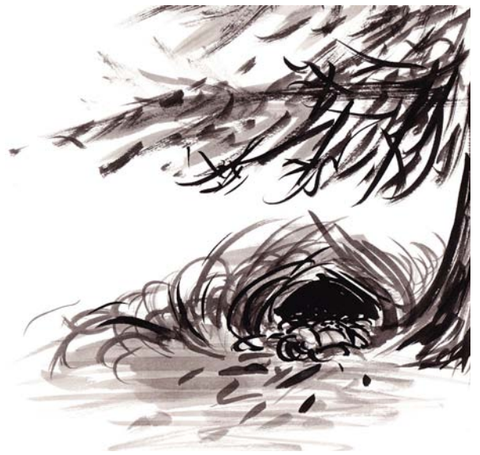
The ethical questions resulting from this conservation effort struck my interest instantly. I was fascinated and conflicted by the gray-morality of it all, and wanted to show others the moral conflicts that can be present in conservation.

In response, *Conserve---Remove* was made. This animation was broken up into small segments that were animated independently of each other. These small segments were then brought together in a larger animation. One segment was shown individually for a few seconds at a time before the next segment was shown. This progressed in chronological order until the story had been completed. Each segment was then showed simultaneously side-by-side, and a cage was lowered in front of all of them, confining protesting cowbirds. An empty screen is then shown for a few seconds, followed by a center image of Kirtland's warblers leaving a nest.

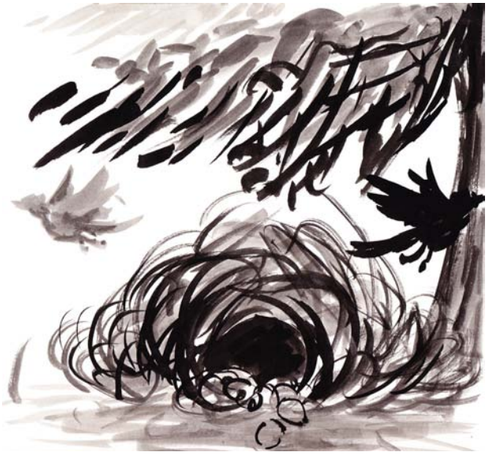
Previous suggestions of stylization experimentation from professors led to all of the drawings having a more cartoonish appearance. As part of this stylization, all of the frames were created with brush and ink. The final animation was projected onto a wall.

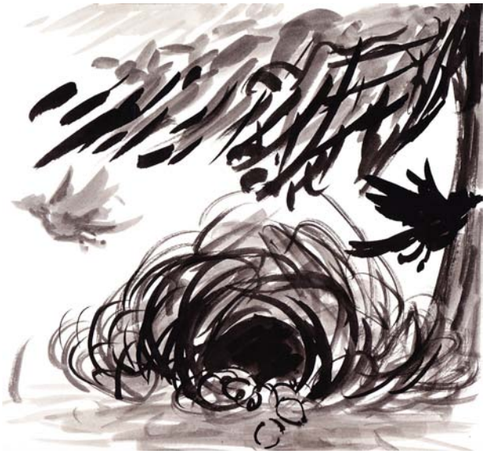
Left: Early studies for *Conserve---Remove*, Ink on paper.
Animation can be viewed at awhitlockthesis.weebly.com/evolutionepiphany



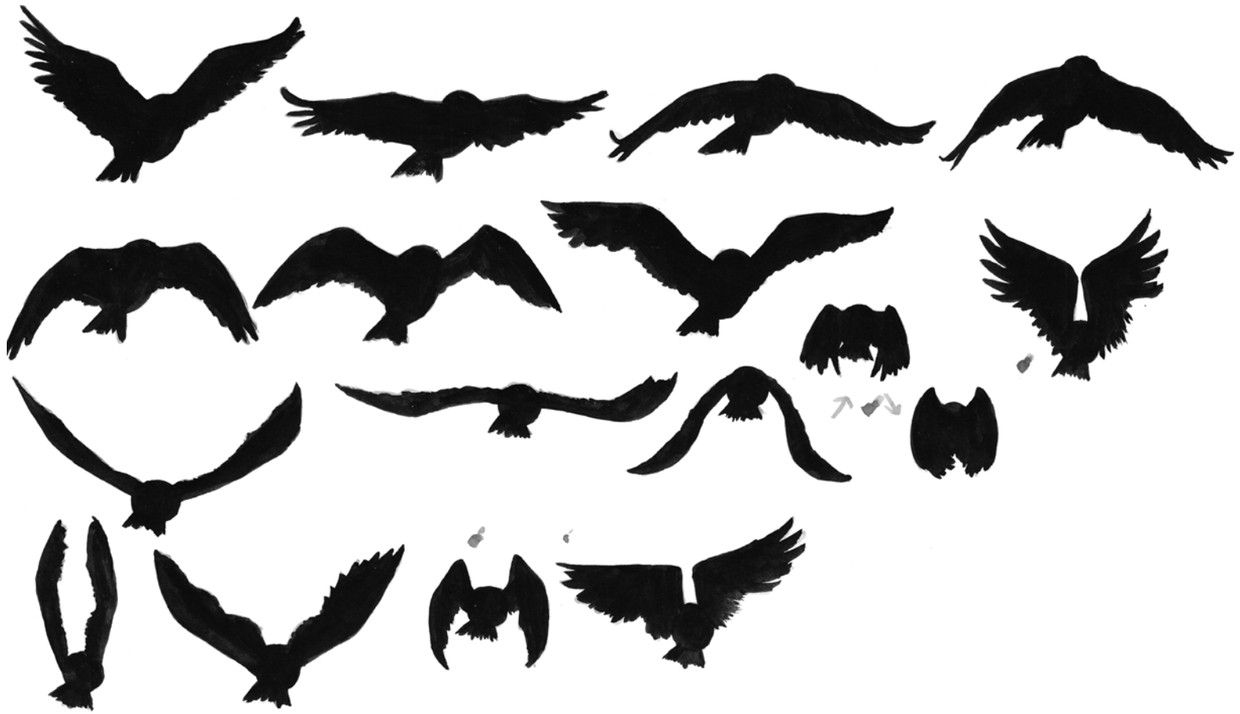



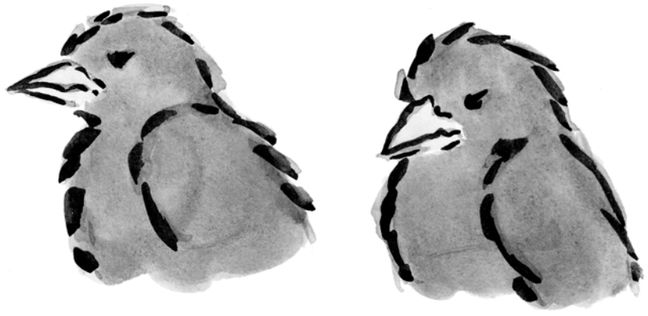


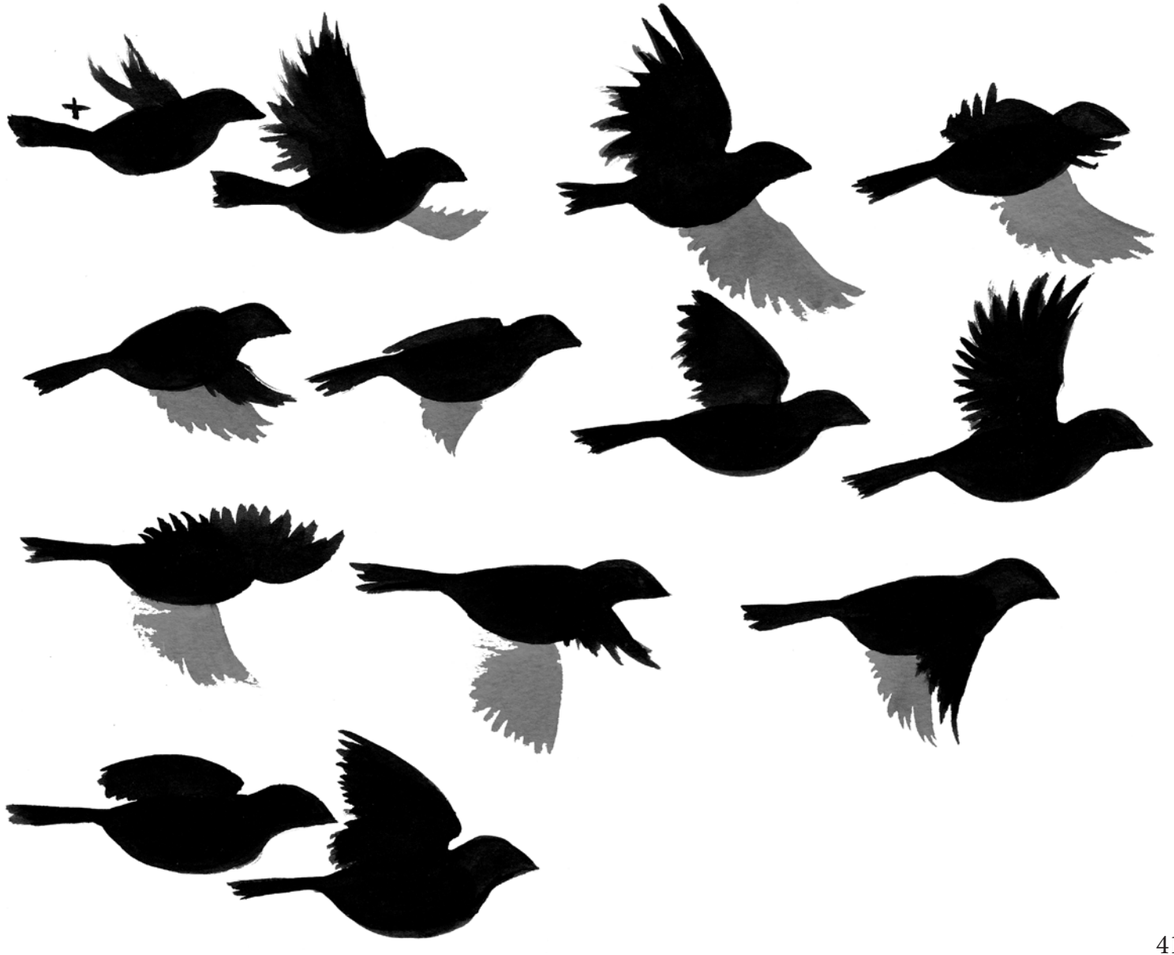


Above and Opposite: Frames components from *Conserve---Remove*, Ink on paper.
Animation can be viewed at awhitlockthesis.weebly.com/evolutionepiphany



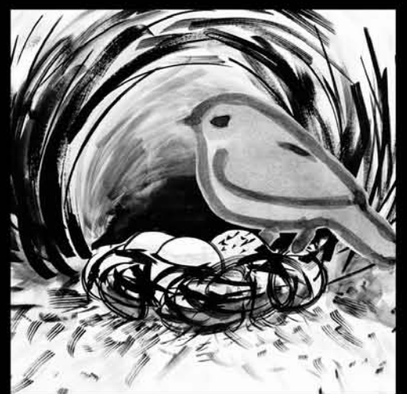


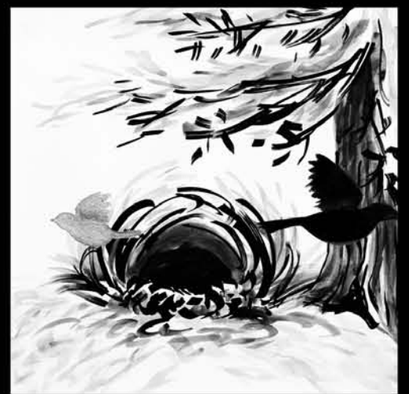


Conserve---Remove proved to be too busy visually, and the stylized drawings took away from the serious nature of the story. Simplification in visual representation was strongly needed, and stylization needed to be used more carefully. Also missing was the staggering number of 4,000 dead cowbirds. As a result of all these factors the question of morality was not raised, making the animation unsuccessful.

Despite this, the ideas behind the animation were a step towards successful exploration of these issues in my art.

Left: Frame from *Conserve---Remove*, Ink on paper.
Opposite: Frame from *Conesrve---Remove*, Ink on paper and digital.
Animation can be viewed at awhitlockthesis.weebly.com/evolutionepiphany





Arrival

[the culmination]

Fascination with the morality of conservational practices and study methods became the focus of my later work. The majority of these later pieces are reactions to relevant stories about research and conservation of animals. I desired to present both historical and current examples of gray morality for the viewer who may be unaware of this morally ambiguous legacy.

In doing this, the idea of the fabrication of life resurfaced as these pieces involved models of birds.

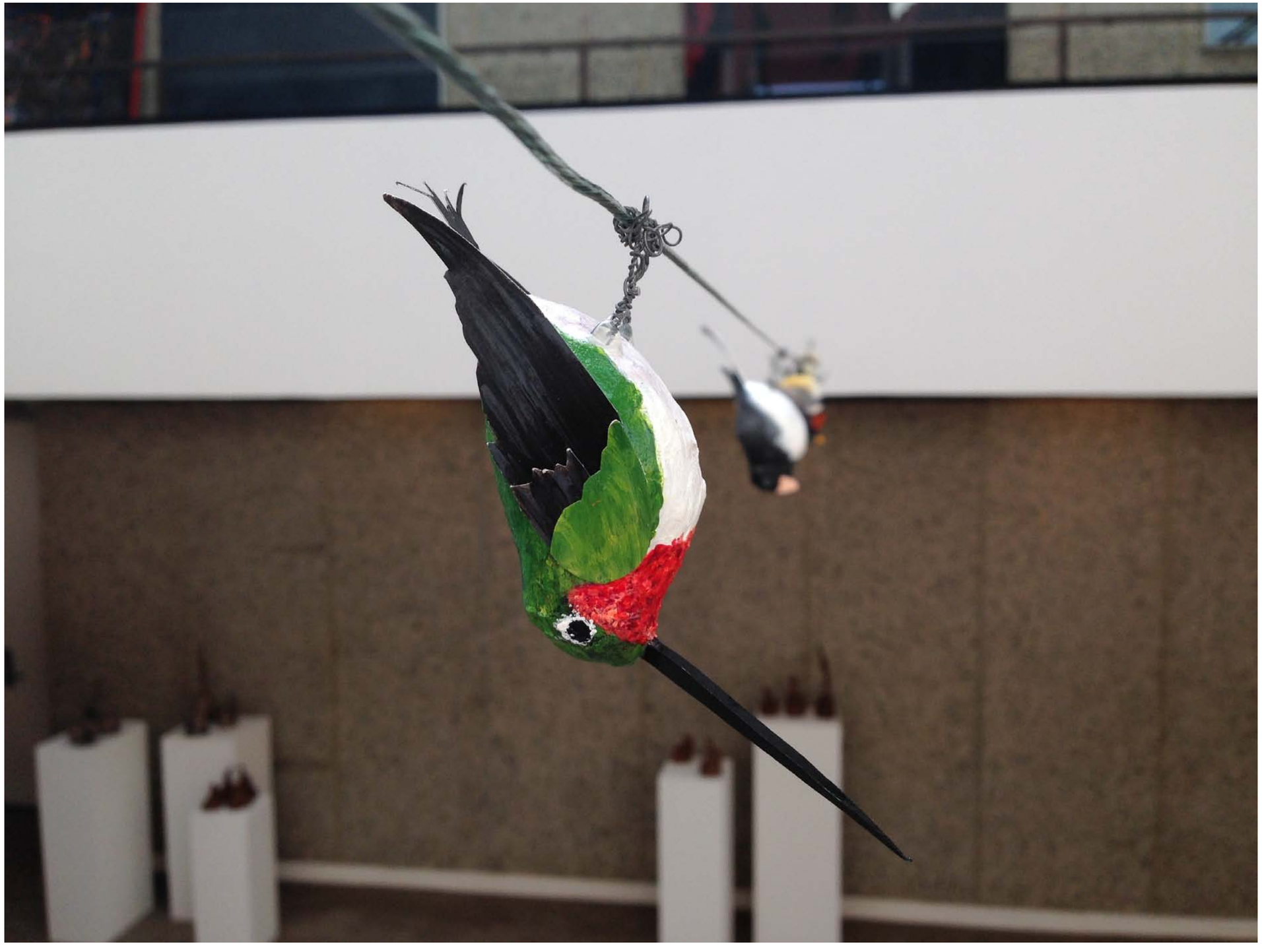
Displacement was the first of these pieces to be conceived. The intent was to show the effect of "relocate" and "reintroduce" on animals. To accomplish this, species of birds were presented in an environment in which they may have been found prior to human influence. In conservation, species have been intentionally reintroduced to areas where they were previously found, prior to local extinction caused by humans. Human interactions alter the environment, often causing unintentional displacement or extinction of species. These interactions between humans and the natural world affect numerous species, shown by the variety and number of species present in the piece.

To present this idea, life-sized models of birds were created and perched upside down on a wire across the main gallery space. The unnatural upside down position was meant to enhance the feeling that something is wrong with the scenario; while this space might have once been for the species, the current building has disrupted and erased that environment. The species have thus been displaced from a location where they were likely found prior to the construction of the building.

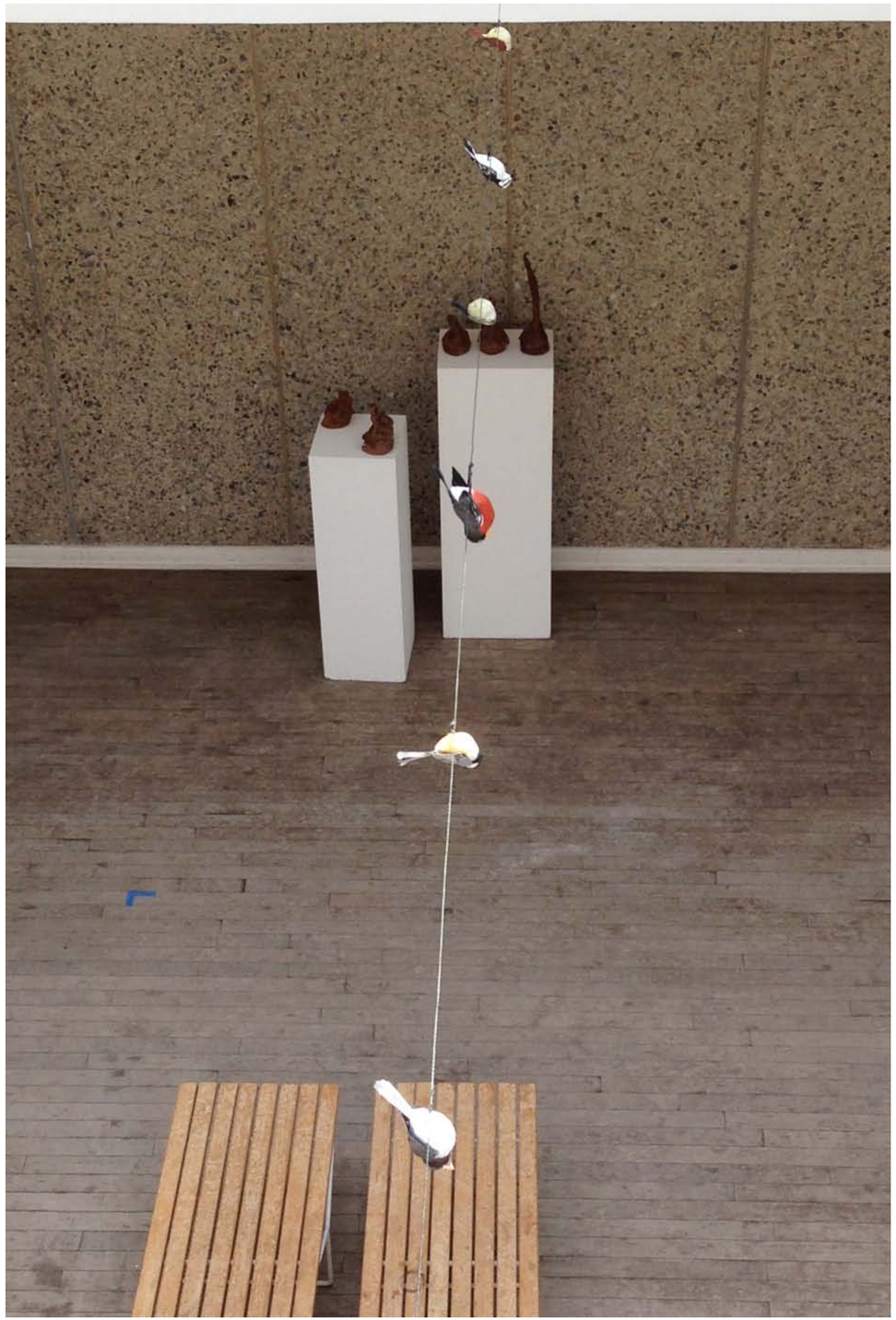
The basic form of the models was carved from "wet" floral foam. These forms were then painted, paper details attached, and wire feet created. Earlier models had direct applications of paint to the foam, while later models were first covered in newsprint prior to painting.

While the presentation of the birds caught viewers' attention, the significance of the birds was often overlooked. The birds may have appeared too decorative to display their intended message.

Opposite: Bird models from *Displacement*, Mixed media.



48 **Above and Opposite:** *Displacement* displayed in the gallery space



Throughout this evolution of work, research was continually done to aid in its transformation. Being largely inspired by John James Audubon, I naturally learned about his life and his work. I was mildly surprised to find out that this famous naturalist was not who people paint him to be. While many know that Audubon killed his models before painting them, other practices of the naturalist-artist are not widely known. Audubon ate many of his dead bird models; he raised birds as pets; and he often killed them in what we now consider to be cruel ways (Audubon, "Bird Biographies" 1957). Remarkably, Audubon killed birds in methods that he thought were more humane; at the time, most people believed that animals were "machines," and did not care if they were killed humanely.

Audubon kept detailed journals of his studies, which I delved into to for further information. One study—or perhaps more appropriately one story—stood out almost instantly: the story of Audubon's golden eagle.

Audubon had purchased a golden eagle for the purpose of illustrating it. After studying it for a day, he pondered how to kill the creature causing it the least amount of pain. The eagle had to be killed for Audubon, as Audubon worked from dead birds to create his illustrations. The eagle (in a cage) was placed in a small room with a pan of lighted charcoal. For two days, the Audubon left the eagle in the smoky room in an attempt to kill it in a "painless" way (Audubon, "Bird Biographies" 111-112). Frustrated with the bird's resilience against the charcoal smoke, Audubon decided to kill the eagle another way:

"At last I resorted to a method always used as a last resort. I thrust a long piece of steel through his heart. My proud prisoner instantly fell dead without ruffling a feather." (Audubon, "Bird Biographies" 112)

Left: *Golden Eagle - Plate 54, The Birds of America*.
John James Audubon. 1827-1838. Watercolor.

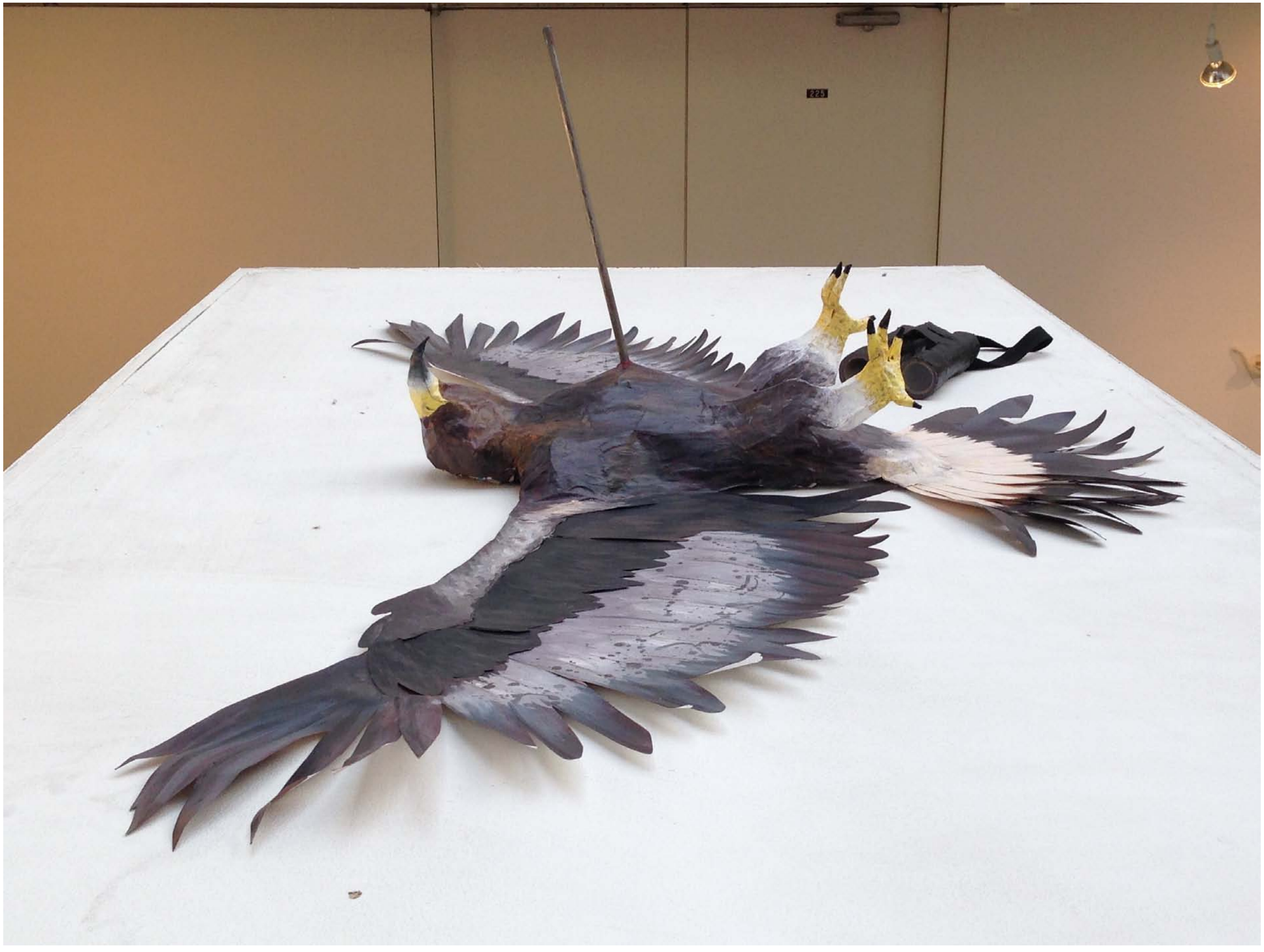
This story shocked me so that it drove me to create *Audubon's Eagle*. *Audubon's Eagle* is a life-sized model of a golden eagle with a metal piece piercing its heart and binoculars beside it. The model (created from a base of cardboard and paper around a steel rod) is posed lying on its back with wings spread. This pose was used to stress the presence of Audubon's action.

Binoculars were placed beside it as an icon of animal studies and to represent a shift in animal studies from collecting specimens to observing birds. This gradual transition began in the first half of the twentieth century, first with amateur birdwatchers and then with professional ornithologists. The creation of field guides aided this shift; the development of these guides was only possible through studying bird specimens for classification.

This whole piece was then placed atop a large box within the gallery space. The height of the box made only parts of the piece visible from the main floor of the gallery, forcing the viewer to go to the next floor to fully see the piece. By obscuring the piece this way, I hope to emphasize the hidden presence of startling events in historical methods of animal studies.

Above: Process of making *Audubon's Eagle,* and nearly finished model.

 Opposite: close up of *Audubon's Eagle* face.

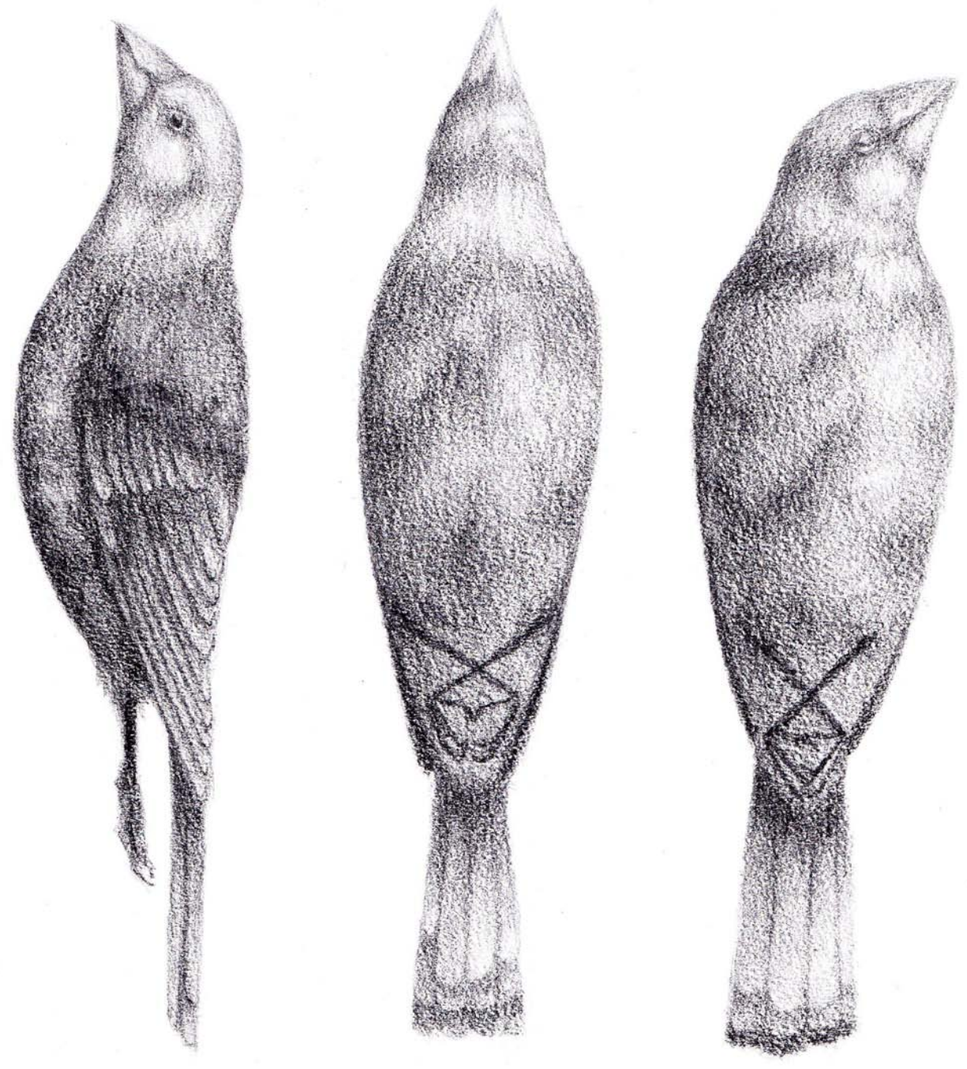


 Above and Opposite: *Audubon's Eagle* displayed in the gallery space

Drawing on new methods and thoughts, the cowbird story was revisited. Prior issues considered, the most prominent aspect of the story was the sheer number of cowbirds involved. To express this quantity, I considered it best to show this number literally.

To accomplish this task, 4,000 "cowbirds" were used in *Requirements for Conservation*. The creation of this piece began with three drawings, life size, of cowbirds in positions of typical bird specimens. These images were copied and cut from paper to reach the target number of 4,000 cowbirds.

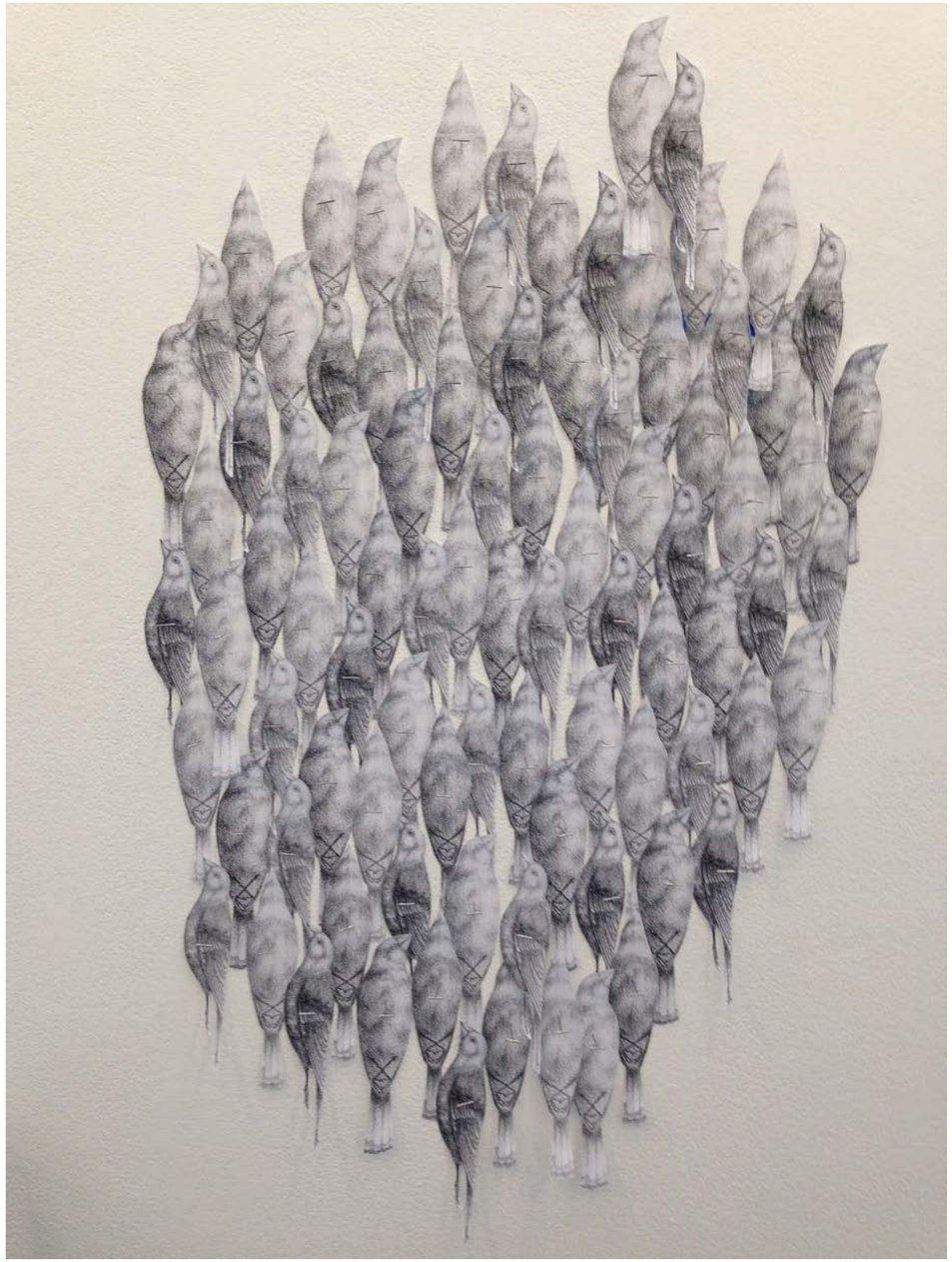
The drawings and copies were left in a gray scale, void of color. Drawn and printed in gray, the lack of color is meant to enhance the understanding that the birds drawn represent birds that are dead, rather than alive. Specimen poses are also used to raise the question of the fate of the euthanized birds. To ensure the future of the Kirtland's warbler, the trapping of cowbirds may be necessary; what then, are we doing with all those dead birds? The concept of making all 4,000 cowbirds into specimens is absurd, emphasizing the sheer quantity of cowbirds that are killed each year.



Left: Original brown-headed cowbird drawings for *Requirements for Conservation*, Pencil.

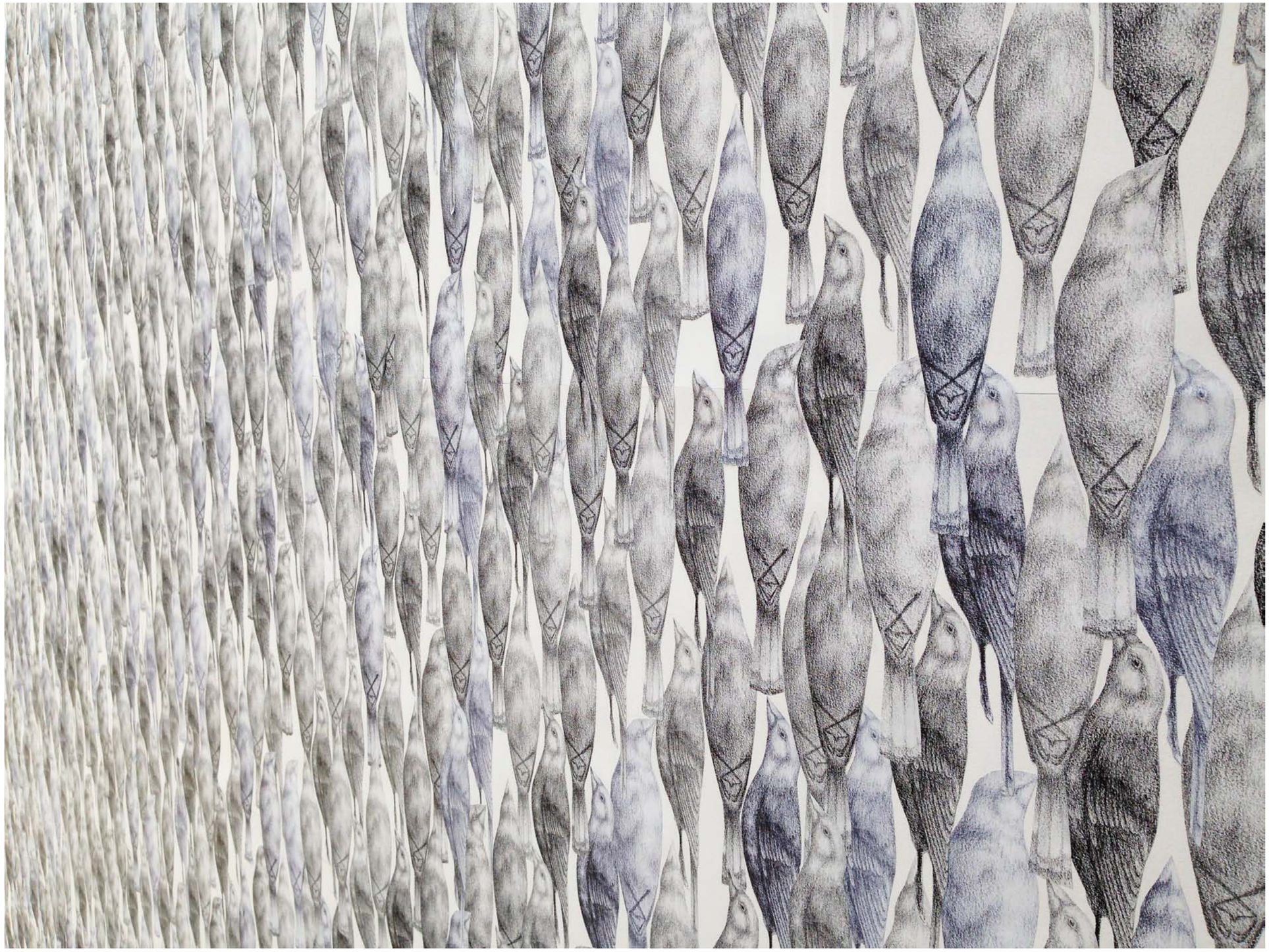
For installation, the cutouts were applied in a vertical orientation on a large box in the gallery space. The birds were applied to the box with a light adhesive in an attempt to allow for the cutouts to slowly peel off over time, resembling dead leaves falling from trees. All four sides of the box were covered with these paper birds, causing the box to resemble a gray, rocky surface from a distance. Birds that did not fit on the box were placed on the ground, surrounding the box. Small models of Kirtland's warblers (created just like the birds in *Displacement*) were perched atop this box, above the cowbirds.

This piece serves both as a grave for the brown-headed cowbirds, and as a testament to the survival of Kirtland's warblers in the face of a vast population of nest parasites. As a "monument," this piece also shows the cost of rectifying a problem created by initial human alterations of the environment.



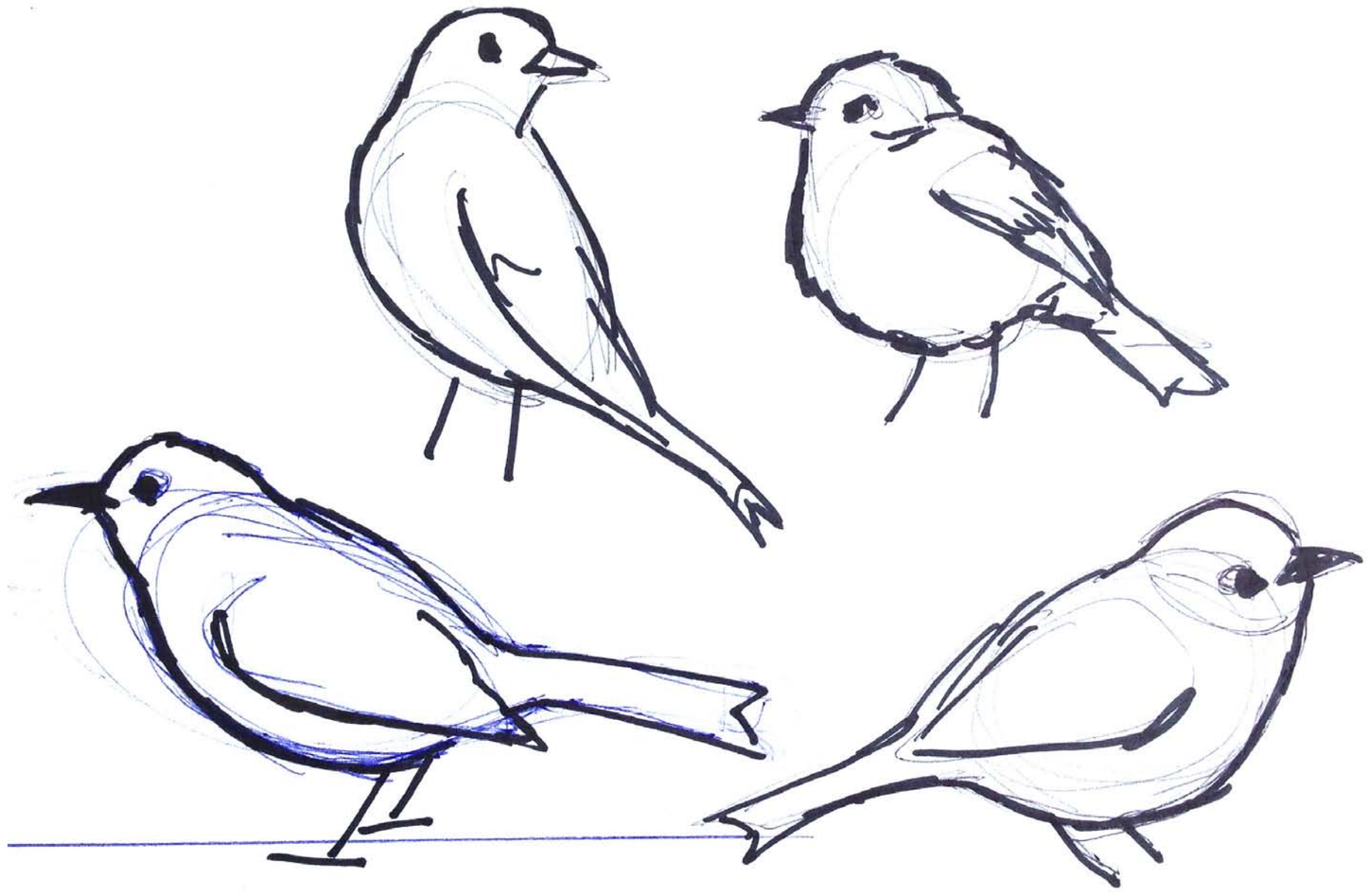
Left: A small number of cutouts from *Requirements for Conservation* pinned to a wall.

58 **Above and Opposite:** *Requirements for Conservation* displayed in the gallery space.



60 **Above and Opposite:** *Requirements for Conservation* displayed in the gallery space

Conclusions



Closing Thoughts

A desire to show the presence of gray morality in the studies of and conservation of animals led to the creation of physical, powerful pieces. These works are literal, difficult to ignore, and stand their ground against the viewer, making their intent clear.

While this intent is vastly different from the intent of earlier pieces, this growth was necessary for the creation of successful work. I want this current work to cause the viewer alarm, to spark the viewer's curiosity about what is literally being presented before them. I do not wish for this to show a moral bias, but rather to illustrate the presence of gray morality of these issues.

Through this, I hope to raise awareness for the costs of conserving and studying animals. In looking at both the past and present, we are able to think about these costs in the future.

Annotated Bibliography

"Animate | Define Animate at Dictionary.com." *Dictionary.com.* Dictionary.com, 2014. Web. 10 Sep. 2014. <http://dictionary.reference.com/browse/animate>.
Definition of the word "animate".

Askins, Robert A. *The Connecticut College Arboretum Bulletin.* No. 31. New London: Connecticut College Arboretum. 1990. Print.
A study of bird abundance in the Connecticut College Arboretum from 1982 to 1989.

Audubon, John James. *Bird Biographies of John James Audubon*. Ed. Alice Ford. New York: Macmillan, 1957. Print.
This book contained descriptions of Audubon's studies of individual species. Each description has in-depth information regarding the individual's habitat and behavior.

Audubon, John James. *The Original Water-color Paintings by John James Audubon for the Birds of America: Reproduced in Color for the First Time from the Colle tion at the New-York Historical Society.* Vol. 2. New York: American Heritage, 1966. Print.
This second volume contained the second half of Audubon's pieces from The Birds of America.

Audubon, John James, and Marshall B. Davidson. *The Original Water-color Paintings by John James Audubon for the Birds of America: Reproduced in Color for the First Time from the Collection at the New-York Historical Society*. Vol. 1. New York: American Heritage, 1966. Print.
This first volume gave both information on Audubon's background and contai ned the first half of Audubon's pieces from The Birds of America.

Audubon, John James. *Golden Eagle - Plate 54, The Birds of America*. 1827-1838. Water color. *The Original Water-color Paintings by John James Audubon for the Birds of America: Reproduced in Color for the First Time from the Collection at the New-York Historical Society.* By John James Audubon and Marshall B. Davidson. Vol. 1. New York: American Heritage, 1966. Print.
Image source for Audubon's illustration of a Golden Eagle.

Benson, Barry, and Charles Lovell. *Brown-Headed Cowbird Trapping Efforts for the Protection of Kirtland's Warblers in Wisconsin*. Rep. N.p.: United States Department of Agriculture Animal Plant Health Inspection Service Wildlife Services, 2010.
Overview of conservation efforts used to aid the Kirtland's Warbler.

Bostock, Stephen St. C. *Zoos and Animal Rights: The Ethics of Keeping Animals*. London: Routledge, 1993. Print.
This book discussed the ethics of keeping animals within zoos, and discussed the evolution of these ethics over time.

Braun, Marta, and Étienne-Jules Marey. P*icturing Time: The Work of Etienne-Jules Marey (1830-1904)*. Chicago: U of Chicago, 1992. Print.
Discusses Marey's life and work. Provided information on Marey's methods of studying motion, and how these methods transformed over time.

"Definition of Life in English." *Life: Definition of Life in Oxford Dictionary (American English) (US)*. Oxford University Press, 2014. Web. 10 Sep. 2014. <http://www.oxforddictionaries.com/us/definition/american_english/life>.
Definition of the word "life".

DeLeiris, Lucia. "Travel Sketches and Watercolors, Plein Air Painting, Expedition Art, and Travel Journaling | - Lucia DeLeiris Fine Art." *Travel Sketches and Waterco ors, Plein Air Painting, Expedition Art, and Travel Journaling | - Lucia DeLeiris Fine Art*. N.p., 2011. Web. 8 Feb. 2015. <http://www.luciadeleiris.com/>.
Official website for Lucia deLeiris; has examples of her work.

Elbert, Dan, and Chris Mensing. *Brown-headed Cowbird Control in Kirtland's Warbler Nesting Areas, Northern Lower Michigan.* Rep. N.p.: United States Depar ment of the Interior United States Fish and Wildlife Service, 2010.
Report on the processes and effectiveness of cowbird control for the conservation of Kirtland's warbler.

Fa, John E., Stephan M. Funk, and Donnamarie O'Connell. *Zoo Conservation Biology.* Cambridge: Cambridge UP, 2011. Print.
Contained information on role of zoos for conservation. Gave examples of successful and unsuccessful possibilities of efforts zoos have made and plan to make to aid in conservation.

"Great Blue Heron Bird Flying and Landing on Tree Top - Canon S5 IS." Online video clip. *Youtube*. YouTube, 2011. Web. 01 Sep. 2014.
<https://www.youtube.com/watch?v=ZXPc4Vo_l2k>.
Video of a great blue heron flying, studied specifically for Heron Flight Study.

"ICA | The Institute of Contemporary Art/Boston | Jim Hodges: Give More Than You Take." *ICA*. ICA, 2014. Web. 7 Oct. 2014.
<http://www.icaboston.org/exhibitions/exhibit/jimhodges/>.
Brief description of the exhibit visited, and a video about the artist.

"Jim Hodges: Give More Than You Take." Jim Hodges: *Give More Than You Take*. Jim Hodges: Give More Than You Take | Dallas Museum of Art, 2013. Web. 06 Oct. 2014. <http://www.dma.org/art/exhibitions/JimHodges>.
Has examples of art from the show Give More Than You Take, which was both at the DMA and ICA.

Kirtland's Warbler (Setophaga Kirtlandii)." *U.S. Fish and Wildlife Service Kirtland's Warbler Fact Sheet.* U.S. Fish and Wildlife Service, 2014. Web. 21 Nov. 2014.
<http://www.fws.gov/midwest/endangered/birds/Kirtland/kiwafctsht.html>.
Gives a description of the Kirtland's warbler. Information includes habitat, behavior, andbasic history of conservation.

"KU Biodiversity Institute & Natural History Museum." *KU Biodiversity Institute & Natural History Museum*. N.p., n.d. Web. 09 Mar. 2015.
<http://naturalhistory.ku.edu/ornithology>.
Example of an institution currently collecting specimens for education and research.

"Life – Definition and More from the Free Merriam-Webster Dictionary." *Merriam-Webster*. Merriam Webster, 2014. Web. 10 Sep. 2014.
<http://merriam-webster.com/dictionary/life>.
Definition of the word "life".

"Life | Define Life at Dictionary.com." *Dictionary.com*. Dictionary.com, 2014. Web. 06 Mar.10 Sep. 2014. <http://dictionary.reference.com/browse/life?s=t>.
Definition of the word "life".

Mozely, Anite V. and *Eadweard Muybrudge. Muybridge's Complete Human and AnimalLocomotion: All 781 Plates from the 1887 Animal Locomotion by Eadweard Muybridge.* Vol.1. New York: Dover Publications, 1979. Print.
The first volume contains information on Eadweard Muybridge's life and work, and some of his chronophotography studies of human.

Muybridge, Eadweard. *Muybridge's Complete Human and Animal Locomotion: All 781 Plates from the 1887 Animal Locomotion by Eadweard Muybridge*. Vol.2. New York: Dover Publications, 1979. Print.
The second volume of Muybridge's chronophotography studies of locomotion in animals.

Muybridge, Eadweard. Plate 759. Cockatoo Flying. 1887. Print. Muybridge Art Reference - Looping Cockatoo Flight - Plate 759. SillyDragon.com. Web. 25 Oct. 2014. <http://sillydragon.com/muybridge/Plate_0759.html>.
Image source for Muybridge's chronophotography of a cockatoo in flight.

"No. 826 Marey and Muybridge." *The Engines of Our Ingenuity*. Houston Public Media. KUHF-FM, Houston. 1988-1997. Radio.
Provided some basic information on Muybridge and Marey.

"Ornithology." *Drexel University.* Drexel University, 2015. Web. 06 Mar. 2015. <http://www.ansp.org/research/systematics-evolution/history/ornithology/>.
Example of an institution currently and historically collecting specimens for education and research.

"Sparrow Flying :飛んでいる雀." Online video clip. *Youtube*. YouTube, 2012. Web. 10 Oct. 2014. <https://www.youtube.com/watch?v=Gk03Mbwoj9s>.
Video of sparrows flying, studied specifically for Sparrow Flight Study.

Vedder, Lee A. John James Audubon and the Birds of America: A Visionary Achievement in Ornithological Illustration. San Marino, CA: Huntington Library, 2006. Print.
This book focused on Audubon's process and creation of The Birds of America, and provided background on his artistic evolution. Also contained reproductions of Audubon prints.

"Walton Ford." P*aul Kasmin Gallery - Walton Ford*. Paul Kasmin Gallery, 2014. Web. 20 Oct. 2014. <http://www.paulkasmingallery.com/artists/walton-ford>.
Gives a brief description of Ford's work, and provides examples of his art.