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Wonders of Wisconsin:
A Study on Insect Macrophotography

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IHRTLHC

My Honors in the Arts project, “Wonders of Wisconsin: A Study on Insect Macrophotography,” attempts to bridge the gap between preserved specimens in museums, scientific illustrations, and insects as abstract and representational art through the camera lens. The project also draws connections between New Objectivity (downplay of emotion and connection) and Relational Aesthetics (audience engagement), two contrasting aspects of art. No matter how small something may be, it can illuminate how humans perceive and interact with that which surrounds them.

While many people view insects as something gross and dangerous, insects have been a part of human culture in a variety of ways, most of which have been positive interactions. From an evolutionary standpoint, the fear of insects might stem from exposure to highly aggressive insect species early in human history. However, only about five percent of all insects today are considered pests, and an even smaller percentage actually carry diseases deadly to people¹. Throughout history, people have observed insects and used them for the benefit of human culture². Many countries such as China and Thailand commonly eat insects and other arthropods³, and this cuisine has recently taken hold in the United States⁴. The people of West Africa traditionally used spider egg-sac silk for the balafon and gyl, marimba and xylophone-like instruments⁵. Laboratories around the world are observing the properties of insect and spider toxins and material to

¹ Donna M. Jackson, *The bug scientists* (New York: Houghton Mifflin Books for Children, 2002).

² Deirdre Coleman, “Entertaining entomology: Insects and insect performers in the eighteenth century”, *Eighteenth-Century Life*, 30 (2006).

³ Yupa Hanboonsong, Tasanee Jamjanya, and Patrick B. Durst, *Six-legged livestock: Edible insect farming, collection and marketing in Thailand* (Bangkok: Food and Agriculture Organization of the United Nations, 2013).

⁴ M. P. Klier, “Bugs: They're what's for dinner. Insect chef David George Gordon tells us why wax worms taste like pistachios”, *Sierra Club*, 2013, Accessed January 24, 2014, <http://www.sierraclub.org/sierra/201307/eating-bugs-david-george-gordoninterview.aspx>.

⁵ Dane Richeson (percussion professor) in discussion with author. August 2013.

incorporate into medicines⁶ such as anti-inflammatories⁷ or into products such as the highly durable spider silk in bulletproof vests⁸. Through the practical use of insects and insect by-products, we have good reason to respect the ways in which these small creatures help us survive.

But as we appreciate insects, we also have reason to admire their beauty.

Throughout history, insects have been a part of human visual culture in many forms of art, ranging from cave drawings and Asian textiles⁹ to scientific illustrations and three-dimensional sculptures¹⁰. While many artists have used insects as the subject matter, few have used photography. Photography is one art medium that has aided science in capturing details of the smallest insects for identification guides and online reference collections. Macrophotography has recently become a relevant tool to both capture more artistic and identifiable detail of the insect body without the need for a microscope.

The focus of this paper is to depict the varied relationship between insects and humans through pre-1900 scientific and artistic work, and the rise of insects in contemporary art. Keep in mind that, even though I have the science and art sections separated, advancements involving insects were becoming more prominent in both fields simultaneously. “Wonders of Wisconsin” aims to spark conversations about insects, clearing misconceptions and reaching a wide range of audiences. By presenting insects in

⁶ Michael Hinman, et al., “Synthetic spider silk: A modular fiber”, *Tibtech* 18 (2000).

⁷ Rob Dunn, “Insects as medicine: The ant and the grasshopper”, *The Journal of Life Sciences*, 2012, Accessed October 22, 2013, <http://www.robrdunn.com/2007/01/the-ant-and-the-grasshopper/>.

⁸ Randolph V. Lewis, “Spider silk: Ancient ideas for new biomaterials”, *Chemical Reviews*. 106 (2006).

⁹ Christine Cariati, “Insects in art: The busy bee has no time for sorrow”. Blog post on Venetian Red. 2010, Accessed December 15, 2013, <http://venetianred.net/2010/04/20/the-busy-bee-has-no-time-for-sorrow-insects-in-art/>.

¹⁰ Barrett Klein, “Insects and humans: A relationship recorded in visual art”, *Encyclopedia of Human-Animal Relationships*. 2007.

detail, I will show viewers through an exhibition, specimen displays and informational photographic postcards that insects are complex and useful organisms.

The Scientists

Before the 20th century scientists were using newly developed instrumentation such as the microscope and experiments to prove their viewpoints about natural phenomena. Naturalists such as Charles Darwin used visual observations and written depictions to convey his thoughts on animal biology, evolution, and natural selection. The scientists during this time in history were expected to have some artistic background. They drew their own depictions of what they observed both in museums and in nature. This duality has been lost in most contemporary scientific teaching. There are multiple scientists and naturalists who have contributed many significant works, including Jean Henri Fabre, Robert Hooke, and Maria Sibylla Merian, who stand out for their contribution to entomology and the discoveries that still hold true today in this field (see Timeline A).

Jean Henri Fabre (1823-1915), the French entomologist whom Darwin called “an incomparable observer”¹¹, had a love for flies, bees and wasps, dung beetles, and spiders. Fabre was a self-taught entomologist through simple observation and became known for his delightful and informative writings, which showed his deep appreciation and respect for the delicate creatures of the natural world. The ten-series *Souvenirs Entomologiques*, first published in 1879, was his most famous written work. Fabre’s main contributions to

¹¹ Augustin Fabre, *The life of Jean Henri Fabre, the entomologist, 1823-1910*, trans. Bernard Miall (New York: Dodd, Mead & Co, 1923), 9.

science were the notes in the series depicting the intricate lives of these tiny creatures that many other biologists missed. It is interesting to note that in these detailed accounts, packed with his personal thoughts and feelings, that “he observes, but does not explain”¹². the insects’ activities. Before any record or depiction can be made about any subject, it is imperative that the observer takes the time to know the subject. Fabre took the insects as they occurred naturally, not trying to change or enhance what he found in nature.

Another book, *Micrographia* 1665 written by Robert Hooke (1635-1703), has been described as “one of the major English contributions to seventeenth-century science [and] the first book in the history of science to treat microscopy as a serious aspect of biology”¹³. Hooke understood that the microscope could provide details the human eye simply cannot see. The 23 insect drawings in the book show that “many ‘invisible’ things actually existed, and that seeing objects microscopically disclosed radically new appearances”¹⁴. Hooke’s observations on the structures and functions of the physical features of insect parts are detailed, similar to his drawings. As an example, his microscopic images of the fly wing illustrated the fine hairs characteristic of insect order Diptera¹⁵.

The detailed mechanisms and structural explanations were not the only focus of this work. Hooke paid close attention to the methodology, with written portions complimenting the microscopy drawings. One insect description demonstrated his passion for his work and his continued critical thinking and record keeping:

¹² Ibid, 7.

¹³ Michael Hunter and S. Schaffer, *Robert Hooke: New studies* (New Hampshire: Boydell Press, 1986), 120.

¹⁴ Ibid, 136.

¹⁵ Robert Hooke, *Micrographia, or some physiological descriptions of minute bodies, made by magnifying glasses, with observations and inquiries thereupon by Robert Hooke* (New York: Dover Publications, Inc., 1961), 174.

This was a creature, more troublesome to be drawn, then any of the rest, for I could not, for a good while, think of a way to make it suffer its body to ly quiet in a natural posture; but whil'st it was alive, if its feet were fetter'd in Wax or Glew, it would so twist and wind its body, that I could not any wayes get a good view of it; and if I killed it, its body was so little, that I did often spoile the shape of it, before I could thoroughly view it: for this is the nature of these minute Bodies, that as soon, almost, as ever their life is destroy'd, their parts immediately shrivel, and lose their beauty; and so is it also with small Plants, as I instanced before, in the description of Moss¹⁶ (Hooke on *Of An Ant Or Pismire*).

He followed this description with the procedure for dunking the small black ant in wine to subdue its motion and retain the moisture and movements of the joints. On the following page, he described the process of re-submerging the ant when it started waking up for continued observation, and his marvel at the resilience of the ants he drew. It is easy to see his deep appreciation and respect for the wonders of the natural world.

Maria Sibylla Merian (1647-1717) stands out among the rest in scientific illustrations for her involvement in the sciences and equal dedication to the artistic representations of nature. Merian was a German naturalist and researcher who fell in love with copper etchings of insects and plants at an early age as an apprentice in her father's etching and printing workshop. She is most known for her Surinam trip in 1699, which resulted in the book *Metamorphosis insectorum Surinamensium* published in 1705¹⁷. Instead of studying pinned and prepared specimens, she studied the details of living specimens. In some insects, the coloration of the exoskeleton changes once the organism dies and the circulatory system ceases to pump nutrients to organs such as the eyes. These deceased insects provide a false representation of how they would occur in nature. Through the live insect depictions, Merian demonstrated the importance of accurate representation.

¹⁶ Ibid, 203.

¹⁷ Londa Schiebinger, "Scientific women in the craft trade", In *The mind has no sex? Women in the origins of modern science* (Massachusetts: Harvard University Press. 1981), 77.

Merian also strove to provide knowledge to the scientific community (17 organisms are named after her), create accurate work, and allow non-scientists to appreciate living things in nature. She was one of the first scientists to cultivate insects to determine their various life stages, all accompanied by detailed drawings of each stage¹⁸. She used copper plates so “the connoisseur of art as well as the lover of insects could study it with pleasure and joy”, even though they were very expensive¹⁹. With this statement, Merian created a direct connection between scientific illustrations and the arts. This connection has become a prominent component in contemporary arts, which will be discussed later in this paper.

The scientific drawings described above differ from that of insect identification and field guides that are more prevalent in today’s society. There are a few people who do not regard scientific illustration as fine art. They believe the illustrations are nothing more than something to study and do not hold deeper further-reaching meaning. The majority of insect identification guides in existence today are drawings, with the head of the insect facing up and the wings, if present, spread. These guides depict the insects as independent creatures separate from nature, rather than living organisms that belong in and rely on an environment. This objectifies and abstracts the insects. Guides produced by well-known organizations such as the Audubon Society and the Peterson Field Guide series contain insect descriptions that remove the readers from the wonder of the living specimens.

The individual scientists I have just described, and many others to this day, all demonstrate an appreciation towards the roles insects play in the life of this planet. While these scientists conducted more specific research in the field of entomology, the artists I

¹⁸ The Guardian, “Maria Sibylla Merian: Artist whose passion for insects changed science”, *The Guardian*, 2013, Accessed January 24, 2014, <http://www.theguardian.com/science/grrlscientist/2013/apr/02/maria-sibylla-merian-artist-insects-science>.

¹⁹ Schiebinger, “Scientific women in the craft trade”.

describe below share this deep appreciation for the insects, but portray their thoughts on the subject in terms of artistic skill and representational forms. Few people were intentionally focusing on centering insect forms in art during the 16th century European Renaissance, and it was not until the mid-20th century that insects became a more common subject in art.

In the Center of Two-Dimensional Art

German artist Albrecht Durer (1471-1528) used painting, printmaking, and etching to create pieces that examine form. In the years between 1500 and 1505, his work turned to the natural state of objects²⁰: During these years Durer made many contributions to the arts by placing the simple forms of nature at the center of the work. In Durer's words, "It is indeed true that art is omnipresent in nature, and the true artist is he who can bring it out"²¹. Art is a constant entity in nature, evident in the intricate forms and colors found in every organism. Durer's painting *Stag Beetle* depicts an unblemished adult male stag beetle with jaws opened in front of a cream background²². Other artists created works like Durer's *Stag Beetle* that portrayed the insect in front of a white or cream background. But it was only when Durer and a few other artists depicted insects as part of their oeuvre that there emerged a niche for insects as artistic subject matter. Such artists include Justus Juncker's (1703-1767), whose oil painting *Pear with Insects* from 1765 places a fly and a butterfly on

²⁰ Jane Campbell Hutchison, *Albrecht Durer: A biography* (New Jersey: Princeton University Press, 1990).

²¹ J. Paul Getty Museum, "Who's afraid of contemporary art? Information and questions for teaching". ed. Education Departments, "Stag beetle", 2008, Accessed January 15, 2014, <http://www.getty.edu/art/gettyguide/artObjectDetails?artobj=25>. A discussion on *Stag Beetle* from 1505.

²² Durer, Albrecht *Stag Beetle*, 1505. Watercolor and bodycolor, 5 9/16 x 4 1/2 in. <http://www.getty.edu/art/gettyguide/artObjectDetails?artobj=25> (accessed January 15, 2014).

a lone pear set on a cracked stone pedestal. During the 17th century, still-life objects were often placed at the center of the image with dramatic lighting²³. In this still life, the pear contains tears in its fruit skin with insects around it. As in this still life and many others, the presence of insects suggests the decay or at least transience of life.

Furthermore, Jan van Kessel Sr. (1626-1679) incorporated nature into small-scale oil paintings. The naturalist Joris Hoefnagel inspired Kessel's insect illustration montages²⁴. *Insect and Fruit* series 1641-1679 and *Drawing of Insects* 1653 by van Kessel joins the actual and the artistic. His images are less concerned with decay and more concerned with insect forms. He stays true to both insect form and coloration, but the shadows of the insects and the branches they rest on are not realistic. Several of the insects appear to float in space instead of standing on a solid surface. This discrepancy in lighting demonstrates how van Kessel not only incorporates the biology of the insects but also renders them with artistic license.

In addition to painting and printmaking, insects and arachnids have been a part of textile patterns. The Austrian designer Dagobert Peche created the pattern *Swallowtail* in 1913 – an intricate yellow, white and black pattern of the butterfly that is still in used in clothing fashion today²⁵. From a distance the swallowtail shape is barely recognizable, but details of the pattern show the butterfly shape among the flowers. Peche depicted insect form in an abstract and stylized fashion, representing the generalized form of a butterfly. This pulls away from the insect biology, but it continues to please audiences and serve as a reminder of the butterfly's significance and relevance. Like Peche, French designer Emile-

²³ Cariati, "Insects in art: The busy bee has no time for sorrow".

²⁴ Arthur K. Wheelock Jr., "Jan van Kessel 1626-1679", In *Flemish paintings of the seventeenth century* (New York: Oxford University Press, 2005), 122.

²⁵ Cariati, "Insects in art: The busy bee has no time for sorrow".

Alain Seguy (1877-1945) also incorporated butterflies into his textile patterns, along with other exotic insects. His Art Deco designs are intended to make the beauty of the insects accessible to a wider audience, especially other designers²⁶. Seguy's work was more true to natural shapes, colors, and textures of the insects, which then served as a template for other artists striving to use insect forms in their textiles. Seguy strayed away from the simplified forms of butterflies, and instead highlighted the complex details of butterfly wings in his work. In this way, artists and designers have helped people gain familiarity with the insect world.

Contemporary Artists Use Insects

Within the early art context described above, insects were idealized forms, indications of decay, and springboards for fashion design. Today, there are many artists experimenting with insect form and function (see Timeline B). This ranges from depicting insect bodies in their works as well as employing the insects in the work itself.

Many insect forms exotic to the United States allow the artist to deploy spectacular colors and patterns. Jennifer Angus creates raised wallpaper designs actually made out of insects, particularly weevils²⁷. The patterns on the beetles complement the patterns they create on the wall. From a distance, the wall-to-wall design looks like ordinary wallpaper. The viewer has to get up close to the work in order to notice the individually pinned and

²⁶ George Glazer Gallery, "Art nouveau prints from E. A. Seguy's *Insectes*", 2013, Accessed January 24, 2014, <http://www.georgeglazer.com/prints/nathist/butter/seguyinsinv/seguyinsinv.html>.

²⁷ Elizah, "Jeepers creepers! 10 insanely original insect-inspired artists". Blog post, 2010, Accessed October 22, 2013, <http://webcoist.momtastic.com/2010/05/12/jeepers-creepers-10-insanely-original-insect-inspired-artists/>.

positioned specimens. Christopher Marley, on the other hand, uses photography to depict the coloration of beetles. Against white paper, Marley arranges exotic beetles into common shapes such as circles²⁸. The color combinations of the individual beetles are bright, metallic, and eye-catching. His photography lets the viewer experience the entirety of the colorful design as well as the meticulous positioning of the insects.

Painting continues to be a prominent way to depict insects. One artist who has taken this approach further is Steven Kutcher, an insect behavioral specialist who has worked on movie productions such as *Arachnophobia* and *Spider-Man*²⁹. While many artists paint images of the whole insect or parts of it, Kutcher uses the minute feet of the beetle as his paintbrush³⁰. The insect's feet are first painted, and Kutcher lets it walk on wet paper. Just like how he coaxed the spiders to climb into the shoes in *Arachnophobia*, he uses light and temperature to add his creativity to these pieces. As the artist claims, no insects are harmed in the making of these paintings.

In contrast, insects can also be used in sculptures. When the insects die and dry out, their hard exoskeletons retain their shape. This entomological characteristic allows Tessa Famer to create small fairy sculptures³¹. Her exhibit *Swarm* from 2004 depicted minute skeletons with insect wings (the fairies) riding dragonflies and pulling on the wings of honeybees and wasps. Another exhibition, *Little Savages* from 2007, displayed an attack on a fox, with the tiny fairies using bees to sting the nose and eyes. Farmer takes a darker perspective on the biology of insect sculpture, while artist Katie Jennings emulates

²⁸ Ibid.

²⁹ Entomological Society of America, "Steven Kutcher, Hollywood insect trainer", 2011, Accessed 2013, <http://www.entsoc.org/buzz/steven-kutcher-hollywood-insect-trainer>.

³⁰ Nick Thomas, Sunday, "He Lets Creepy-Crawlies Get Their Feet Wet as Painters", from *The Washington Post*, 2007, Accessed September 2013, <http://www.bugartbysteven.com>.

³¹ Patricia Ellis, "About Tessa", 2007, Accessed January 25, 2014, <http://www.tessafarmer.com>.

museum-style insect displays by repositioning dead insects³². The positions of the insects match that of insect guide depictions, but she creates her own artistic twist with the surrounding display. The insects are never pinned, and are glued onto colorful and intricate backgrounds that emphasize the colors and forms of the insect. Through her exhibitions and her website *Insect Art*, she is able to educate the public about the beauty of all insects, which is her goal.

The Completion of "Wonders of Wisconsin"

Through examining how artists and scientists used the insect as subject matter, I would like to turn to my own response to insects. I wanted to create art emphasizing that "insects and related creatures are fascinating, fun, and must be studied because they are essential to maintaining a healthy planet"³³. For me, there has always been an attraction to the beauty of the tiny bodies that fly around us on any given day. With my "Wonders of Wisconsin" exhibition, I intend to bring the audience closer to these insects than most have ever been before.

The Process

The process I used for my images required a large amount of research and many hours of image editing. The first step was to collect the specimens. This was done behind Lawrence University's student dorm buildings, the 76-acre Heckrodt Nature Reserve in

³² Terry Rombeck, "Art bug", Lawrence Journal World, 2007, http://www2.ljworld.com/news/2007/nov/12/art_bug/.

³³ Steven Kutcher, "Bugs are my business", 2013. Accessed November 5, 2013, <http://bugsaremybusiness.com>.

Neenah, WI, and my hometown of Johnsburg in northern Illinois. The process included simple net sweeps across the grasses, tree leaves, and brush. Captured insects were placed in glass killing jars with cotton balls and a few drops of acetone to anesthetize the insects. This is the most common way of euthanizing insects. Moreover, to create my small insect collection, I only took two specimens of each species, preferably one male and one female. This was the case if there were a large number of the insect species available. Additionally, the insects I collected are either considered stable or invasive to the Wisconsin area, with the exception of bumblebees. The bumblebee species I collected were found dead on Lawrence University campus, and are currently not in a population decline. My project therefore does not hinder the populations of insects found in Wisconsin.

I took these insect specimens back to the lab for pinning and positioning. To do the positioning, I studied museum-mounted specimens, along with guides for mounting and positioning. The positioning is both a reflection on common museum practices as well as the aesthetic practice of viewing an entire insect. The insects I had collected early on had to be rehydrated in a relaxing chamber. This consisted of a plastic tube filled with an inch of sand soaked in 10% bleach. The humidity that builds up in the chamber over three days relaxes the insect's ligaments and allows for the wings and legs to move. The bleach is used to prevent any mold from growing on the specimens during the process.

While researching the photography techniques for this project, I came across Sam Droege's work for the United States Geological Survey (USGS), and decided to use the same focus stacking procedure for my images³⁴. A macro lens only allows for a narrow plane of

³⁴ Meredith Rizzo, "Beauty is in the eye of the bee-holder", *The Picture Show*, 2013, Accessed January 10, 2014, <http://www.npr.org/blogs/pictureshow/2013/09/20/224506950/beauty-is-in-the-eye-of-the-bee-holder>.

focus, which blurs the majority of the insect body. I purchased a rail for my camera so I could make small incremental changes to capture the focus of every plane of the insect. For each insect there were twenty or more images, each with a different part of the insect in focus. The process in Photoshop CS6 took the focused areas of the images and merged them together to make one completely focused image.

I photographed dead insects because they are fairly easy to work with once they are positioned on the pin. The problem with dead pinned insects is that (1) the exoskeleton is fragile and easily broken, and (2) as stated before, some insects (e.g. flies and dragonflies) lose identifiable coloration in the eyes and abdomen. The broken exoskeletons were alleviated by carefully gluing pieces back on with the aid of a dissecting microscope. As an aside, I associate the discoloration of the bodies with misconceptions on insects and the mis-representational art of several artists, including Jan van Kessel Sr. (unrealistic abstractions of shadows and insect congregation), Justus Juncker (association with decay), and Jennifer Angus (use of undamaged, individually-packaged and imported insects). There will always be some form of mis-representation in insect art simply because it involves synthetic positioning.

Viewing insects from different perspectives helps us humans understand and appreciate their complexity, diversity, and beauty. If we approach insects with the traditional attitude – they are “gross” and “harmful” – we misinterpret them and might not care if human activities destroy them. I seek to bring forth the true beauty and enduring importance of these tiny wonders.

New Objectivity

The composition of my photographs is influenced by the aesthetics typical of “New Objectivity” photography. The name was coined by Gustav Friedrich Hartlaub for photography created in Germany as a way to depart from the abstract Expressionism³⁵. New Objectivity emphasized the bare observation of natural forms. This approach objectifies the subject in the image, removing deep connections between the image and the viewer. In my photographs, I placed specimens in front of a neutral black background in order to focus the viewer’s attention on insect form. In this way, commonly overlooked objects reveal their beauty. For example, German-born Karl Blossfeldt (1865-1932) used his photographs of plants as geometrical shapes to teach drawing classes³⁶. He collected wild specimens, stating that they had more fascinating forms than those sold for decoration³⁷. Alexey Kljatov, a Russian photographer, used macrophotography for his incredible images of snowflakes^{38,39}. His use of macrophotography has allowed viewers to see what would normally be missed in the snowfall, focusing on the individuality of each snowflake. Like these photographers, I follow the aesthetics of New Objectivity. I use the insect motif, turning away from the abstract (misconceptions) towards the actual (intricate forms and coloration).

³⁵ Britannica Academic Edition, “History of photography”, Accessed January 31, 2014, <http://www.britannica.com/EBchecked/topic/457919/history-of-photography/252867/The-New-Objectivity>.

³⁶ Hans C. Adam, *Karl Blossfeldt* (Koln: Taschen 1999).

³⁷ *Ibid*, 33.

³⁸ Gary Jackson, “Let It Snow... Let It Snow...”, *Gary Jackson: Fire When Ready Pottery*, 2013, Accessed February 27, 2014, <http://firewhenreadypottery.com/2013/12/let-it-snow-let-it-snow/>.

³⁹ Alexey Kljatov, “Snowflake review”, from USA Today. Video. 2014. Accessed February 27, 2014. <http://chaoticmind75.blogspot.com>.

Not Scientific Illustration

My photographs differ from those done strictly for scientific purposes. Identification books using macrophotography or close-up drawings never put the anterior (head-on) or posterior (tail end) of the insect in the corner of an image. Therefore, my images contain multiple angles that place either the head or the abdomen closer to the camera lens and at the corner of the images. Besides image structure, the insects in my work are not what people would consider 'perfect specimens'. Wingtips are broken, parts of antennae are missing, and legs are twisted. Scientific illustrations usually depict how the insect should look if it lived in an ideal environment. In reality, an insect's life is generally treacherous, and it should be expected to have battle scars from encounters with predators, larger animals, and the weather. Nature is not perfect, and I show that by including wild, scarred insects in my project. I stray from the work done by Angus and Marley who use the most colorful and uniform beetles for their creations and idealize insect bodies. I also depart from insect alterations done by Farmer, who intentionally distorts the insect image by tearing the wings and legs.

My goal is to present the most accurate depiction of these common Wisconsin insects without the influence of manipulation for perfection. I detach the insects from size markers, making them much larger than life, only to draw attention to variations among insect species and encourage interesting comparisons between individual specimens and their portraits.

Postcards and Relational Aesthetics

To further these connections for the audience, I incorporated a poster and take-away educational postcards with specific information about each insect's characteristics. Postcards allow the audience to handle part of the exhibition, which only strengthens the connection and improves the memory of information⁴⁰. Postcards are also easy to share and allow more people to view works of art. Many museums offer informational pamphlets, but they are larger and more expensive. Postcards are cheap and allow people to write personal notes and thoughts on the back of them. In turn, they stimulate discussion on insect topics.

I want people to discuss living and thriving alongside insects. This idea stems from Nicolas Bourriaud's "Relational Aesthetics". Art, in this 1990's movement, is not something to visualize but to live through and engage in⁴¹. The postcards enable viewers to stay closer to the specimens and photographs while providing a template for discussion even after the show's de-installation. While New Objectivity encourages contemplative, observational responses to images, Relational Aesthetics promotes deeper connections within a community of people who view art and get excited by discussing it with each other. My project is unique since I relate two seemingly opposing concepts of art into one project, to both present forms as they are found in nature while inspiring the viewers to take away memories as well as discussion of the exhibition.

⁴⁰ Susan K. Jacobson, et al., *Conservation Education and Outreach Techniques* (Oxford: Oxford University Press. 2006), 175.

⁴¹ Nicholas Bourriaud, *Esthétique relationnelle (Relational Aesthetics)*, 1st ed., trans. Simon Pleasance and Fronza Woods (Paris: Les Presse Du Reel. 1998).

Conclusion

We can strengthen the connection between science and art: Insect species are stunning miniature art forms in themselves. That is to say, there is science in every artwork, but there is also art in every field of science. Even though evolution is a continuing process with blemishes, I consider the 'imperfections' of insects to be nature's artistic license.

As scientists and artists alike express the same passion for insects, they can use their work to expose the reality of insects as a force for good in nature. Jennings states, "It's an important mission, to help people be environmentally minded, to conserve things that people don't necessarily think about"⁴². Art is one way to connect people to the environment, and partnerships across disciplines have already shown the power of the image⁴³. As a recent example of one such partnership, Bill Chameides, Dean of Nicholas School of the Environment at Duke University, and Conservation Magazine partnered to make connections between science and art in an effort to better the environment that we depend on⁴⁴. As my exhibition demonstrates, there are innumerable connections between fields of study, humans and the environment, and seemingly contradictory methods of presenting and representing insects.

This past year I had been working on a fellowship proposal that revolved around the interactions between humans and arthropods, specifically insects and other arachnids. The first question the interviewer asked when I started explaining my photography honors

⁴² Katie Jennings, "Insect Art", *Insect Art Online*. <http://www.insectartonline.com>.

⁴³ Jacobson, et al., *Conservation Education and Outreach Techniques*, 174.

⁴⁴ Bill Chameides, "Are artists the ultimate environmentalists?", *Conservation*, 2013, Accessed October 22, 2013, <http://conservationmagazine.org/2013/10/artists-ultimate-environmentalists/>.

project was “Do you see a little of yourself in insects?”⁴⁵. This question sparked a string of thoughts that ended with the answer, “yes”. Why have I been so interested in insects since I was a child? As I see it, insects, like humans, are a part of something bigger in the world, connected to the idea that each individual contributes to the continued survival of his/her species, other species, and the planet. All species coexist in a shared present and future. Art is, as I see it, a major way to start the conversation about our amazing natural world. As Chameides states, “I’m a firm believer in the power of art to ... compel us to see the world as it really is and to come together to preserve and steward that which is irreplaceable and beyond value”⁴⁶.

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⁴⁵ Johnathan Meiburg, Interview for Watson Fellowship. January 8, 2014. Lawrence University.

⁴⁶ Chameides, “Are artists the ultimate environmentalists?”.

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Timeline A: Pre-20th Century Insect Science and Art

Prominent works from both scientists and artists before the 20th century. Significant scientific work is presented on the left, and significant artistic work is presented on the right.

1500 ——— Durer *Stag Beetle* 1505ⁱ

1525

1550

———— Joris Hoefnagel *Mira calligraphiae monumenta*ⁱⁱ

1575

Ulisse Aldrovandi *Historia animalium* ——— **1600**
Volume on insectsⁱⁱⁱ

Francesco Stelluti *Persio tradotto*^{iv} ——— **1625**

Wenceslaus Hollar
Fourty-One Insects, Moths and Butterflies ———
1646^{vi}

———— Jan van Kessel Sr. *Insects and Fruit*^v

1650

———— Jan van Kessel Sr. *Drawings of Insects*^{vii}

Robert Hooke *Micrographia*^{viii} ———

1675

Maria Sibylla Merian
Metamorphosis insectorum Surinamensium^{ix} ——— **1700**

1725

Jan Swammerdam *The Book of Nature, or, The History of Insects*^x ———

1750

———— Justus Junker *Pear with Insects*^{xi}

1775

1800

1825

William Lens Aldous *Head of the Flea*^{xii} ———

1850

———— Joseph Noel Patons *The Quarrel of Oberon and Titania* details^{xiii}

1875

———— Jean Henri Fabre
Souvenirs Entomologiques^{xiv} 1879

Prominent works from both scientists and artists after the 20th century. Significant scientific work is presented on the left, and significant artistic work is presented on the right. Included in scientific work are works about insect and art research, as well as technological advances.

1900

— Dagobert Peche *Swallowtail*^{xv} 1913

1925

— Emile-Alain Seguy butterflies and roses^{xvi} 1926

1950

1975

National Audubon Society Field Guide to Insects & Spiders: North America^{xviii}

— Hubert Duprat began making jewelry out of caddisfly larvae structures^{xvii}
— Steven Kutcher began insect feet paintings^{xix} 1985

2000

James Castner *Photographic Atlas of Entomology and Guide to Insect Identification*^{xxi}

— Mike Libby began mechanical insect pieces^{xx} 1999

2005

— Jennifer Angus *Chiyogami*^{xxii}
— Tessa Farmer *Swarm*^{xxiii}
— Michael Cook began elytra embroidery^{xxiv} 2006
— Damien Hirst *Doorways to the Kingdom of Heaven*^{xxv}
— Katie Jennings *Insect Art* website^{xxvi} 2007
— Christopher Marley *Pheromone*^{xxvii}

2010

Janice Neri *The Insect and the Image: Visualizing Nature in Early Modern Europe, 1500-1700*^{xxviii}

National Audubon Society Field Guide to Insects & Spiders: North America computer app updated^{xxxi}

— Dan Otte *Dual Nature: Science Illustrations of Dan Otte* Exhibition^{xxix}
— Magnus Muhr *The Life of Fly*^{xxx}

Endnotes for Timeline

- i. Durer, *Stag Beetle*.
- ii. Joris Hoefnagel, *Mira calligraphiae monumenta*, 1561-1562. Watercolors, paints, ink on parchment, 6 9/16 x 4 7/8 in. <http://www.getty.edu/art/gettyguide/artObjectDetails?artobj=1756> (accessed January 16, 2014).
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- iv. Francesco Stelluti, *Persio tradoto in verso schiolto* (Rome: Mascardi, 1630).
- v. Jan van Kessel, *Insects and Fruit*, 1641-1679. Oil on copper, 10 x 15.5 cm. http://commons.wikimedia.org/wiki/File:Jan_van_Kessel_003.jpg (accessed September 26, 2013).
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- ix. Maria S. Merian, *Das Insektenbuch. Metamorphosis insectorum Surinamensium* by Helmut Deckert (Frankfurt: Insel 2002).
- x. Swammerdam, Jan. *The Book of Nature, or, The History of Insects*. London: C.G. Seyffert, 1758.
- xi. Juncker, Justus, *Still-life with Pear and Insects*, 1765. Oil on oak, 25.8 x 21.5 cm. <http://venetianred.net/tag/justus-juncker/> (accessed December 15, 2013).
- xii. William Lens Aldous, *Head of the Flea*, c. 1838. Hand-colored lithograph. <http://venetianred.net/2010/04/20/the-busy-bee-has-no-time-for-sorrow-insects-in-art/> (accessed December 15, 2013).
- xiii. Patons, Joseph N. *The Quarrel of Oberon and Titania*, 1849. Oil on canvas. 99 x 152 cm. http://www.nationalgalleries.org/collection/artists-a-z/P/3839/artist_name/Sir%20Joseph%20Noel%20Paton/record_id/2574.
- xiv. Fabre, Jean-Henri, *Fabre's Book of Insects*, trans. Alexander Teixeira de Mattos (New York: Dodd, Mead and Co. 1921).
- xv. Cariati, "Insects in art: The busy bee has no time for sorrow".
- xvi. Ibid.
- xvii. Chelsea Nichols, "The bejeweled bugs of Hubert Duprat", 2011, Accessed September 19, 2013, <http://ridiculouslyinteresting.com/2011/09/21/the-bejeweled-bugs-of-hubert-duprat/>.
- xviii. *National Audobon Society Field Guides* 1st ed. (Knopf, 1980).
- xix. Kutcher, "Bugs are my business".
- xx. Insect Lab, "Insect lab studio". 2012. Accessed January 24, 2014. <http://insectlabstudio.com>.

- xxi. James J. Castner, *Photographic Atlas of Entomology and Guide to Insect Identification* (Gainesville: Feline Press, 2000).
- xxii. Elizah. "Jeepers creepers!...".
- xxiii. Ellis, "About Tessa".
- xxiv. Elizah. "Jeepers creepers!...".
- xxv. Damien Hirst, *Doorways to the Kingdom of Heaven*, 2007. Butterflies and household gloss on canvas, three-piece work. <http://www.damienhirst.com/doorways-to-the-kingdom-of-hea> (accessed April 12, 2014).
- xxvi. Jennings, "Insect Art".
- xxvii. Christopher Marley, *Pheromone* (England: Pomegranate Communications, 2008).
- xxviii. Janice Neri, *The Insect and the Image: Visualizing Nature in Early Modern Europe, 1500-1700* (Minnesota: University of Minnesota Press 2011).
- xxix. Carolyn Belardo, "Dual Nature: Science Illustrations of Dan Otte", Press Release 2011, The Academy of Natural Sciences.
- xxx. Erkan, "10 most creative photos of dead flies by Magnus Muhr", 2012, Accessed January 25, 2014, <http://www.themost10.com/creative-photos-of-dead-flies-by-magnus-muhr/>.
- xxxi. Green Mountain Digital. "Audubon Insects and Spiders – A Field Guide to North American Insects and Spiders". *iTunes Preview*. 2014. Accessed April 20, 2014. <https://itunes.apple.com/us/app/audubon-insects-spiders-field/id367683509?mt=8>.

Exhibition List

Brenna Decker

Wonders of Wisconsin: A Study on Insect Macrophotography

Thomas A. Steitz Hall of Science Atrium, Lawrence University

May1st-June7th 2014.

All Prints:

11x14" Ink Transfer on Aluminum, 2014



Assassin Bug



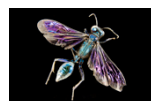
Large Milkweed Bug



Annual Dog-Day Cicada



Locust Borer



Blue Mud Wasp



Northern Paper Wasp



Chironomidae Midge



Predaceous Diving Beetle



Eastern Cicada Killer Wasp



Red-Legged Grasshopper



Common Eastern Bumblebee



Seven-Spotted Ladybug



Differential Grasshopper



Snowberry Clearwing



Eastern Tailed-Blue



Western Leafcutting Bee



Green Stink Bug



White-Faced Meadowhawk



Japanese Beetle



Virescent Green Metallic Bee



Exhibition Installations