

Points of Contact

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Abstract

Points of Contact is an interdisciplinary project that focuses on the detrimental impact of insect extermination culture. This body of work challenges social biases against insects, traversing the boundaries between human and inhuman, inverting interior and exterior, transposing soft and rigid. The work explores visceral connections between insects and humans, illustrating interspecies codependency via cast iron and bronze forms.

The exhibition features a series of sculptural abstractions of insect and human anatomy that have been forcefully exposed to a variety of chemicals commonly used as pesticides. Through skeletal fragments, contorted nervous systems, and oxide exposures the installation repositions insects and steps beyond collective histories of interspecies friction. Bio-surrealism becomes a lens of speculative kinship and bodies are transformed from sites of friction to systems of interdependence and joint suffering.

My thesis paper investigates how the history of mining and metallurgy is connected to the normalization of exploiting nature, how the industrial revolution and rise of agriculture has shifted our relationship to insects and nature, and how reconnecting with insects can help resituate our identities as a part of ecological networks.

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In reflecting on my journey as an artist and metal caster, I am deeply grateful for the influence of Paige Henry, Ed Parrish, and the team at Carie Blast Furnaces for nurturing my early passion for metal casting, This work would not have been achieved without the strength and support I have found within my International community of Iron casters and I am ever grateful for the knowledge and empowerment that each pour brings.

The work is also indebted to my high school advisor Hallie Mueller who first introduced me to *Silent Spring* by Rachel Carson and played an integral role in fostering my interest in reflecting on environmental concerns through art. Both the Canadian Society of Contemporary Iron Arts and the Toronto Entomological Association have provided me with community and endless inspiration; I am deeply grateful for the connections I have been able to make with local history and ecology. This work has been created upon the traditional territory of the Mississauga's of the Credit, Haudenosaunee, Anishinaabeg, and Huron-Wendat; it has been a privilege to come to Toronto and engage with local indigenous scholars who have always centered ecological care and the sanctity of both the land and all living organisms that occupy it.

Dedication

To the roach in the drain, the bug at the bedside and the fly on the windowsill.

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Introduction

Attempts to separate insect lives from humanity have led to the saturation of our world with hazardous chemicals and the collapse of ecological networks. In this body of work, I have responded to the trouble in the Anthropocene by revealing intricacies of insect anatomy and fusing human and insect bodies as a manifestation of our interconnected dynamic within eco systems.

It is my belief that improving our relationships with insects is an essential step in decolonializing our approach to the natural world and centering post-humanist and intersectional concerns of ethical cohabitation with all life. I argue that not only are insects a vital part of the ecosystem scientifically, but also that our interactions with insects build our understanding of how our bodies relate to animals within the ecosystem. Despite the ubiquity of insects, our relationships are often founded on encounters that evoke abjection, the infiltration of our spaces, contamination of our food, puncturing of our skin. Interactions with insects are frequently defensive; we engage as victim and aggressor, slapping away at gnats, swatting at mosquitoes, stomping over ant brigades. I find that these points of contact illustrate how we view ourselves as entitled to territory, food sources, and immune to the predation of other animals. These interactions expose our human vulnerability and cement insects as organism in opposition to our comfort.

The lack of knowledge about insects has exacerbated collective hatred and fear for organisms that positively contribute to our continued survival and wellbeing.

Additionally, the appropriation of insect morphology in fiction, particularly in the design

of monsters and aliens, has further contributed to negative public sentiment and to a deepening misunderstanding of the role of insects within our greater ecological network.

Within the last century, scientific research has further proved the importance of insects and the detrimental impacts of pesticides, yet social perceptions remain widely negative. There is a clear social bias of tolerance that impacts conservation efforts with the general public being more sympathetic to insects with aesthetic value, or bugs that make direct contributions to human interests, primarily pollinator species. [OBJ]

In this work, I have drawn inspiration from the internal nervous systems within insects; my sculptures adopt and obscure anatomy from keystone species that are commonly recognizable within urban space like the honeybee. In using textures, traces, and fragments of insects I offer [OBJ] triggering [OBJ] visuals in controlled exposures, restructuring the ways in which we encounter and engage with insect bodies. These fragmented sculptural forms have been exposed to commercially available pesticides, their surfaces visual anthologies for the chemical methods of control we impose upon ecological systems.

While advocating for environmental preservation is a central motivating factor for this thesis work, what initiated my research on insects was a search in nature for connection. I spent my childhood scooping up beetles from the earth and watching them traverse tender palms, my body serving as merely a shift in landscape. There was a peace in occupying space with a being that had no emotional expectation of me, no gaze to return, no predetermined social dynamics to maintain. There is something about an insect landing upon one's skin that creates a precious moment, a delicate balance, a point of contact that pulls us back into cycles of nature. Insects are creatures that

simultaneously cement our vulnerability as a species while illustrating our power. I remember accidentally crushing the exoskeletons of ladybugs just as vividly as I remember the first sting of a bee and summers spent accumulating constellations of mosquito marks. In this paper, I use the access insects have to the human body to explore the dynamic between the contemporary human identity and nature. Through my work, I illuminate the complexity of insect function, recolor our perception of key species, and encourage a reconsideration of the notion of “Pests”.

Historical Review

This work is a response to contemporary dynamics between humans and insects and is informed by both our current moment in the Anthropocene and centuries of cohabitation and conflict, particularly within the field of agriculture. We have always been in competition with Insects, as Ralph Buchsbaum poses in his book, *Animals without Backbones*, “parts of the world's most fertile regions are closed to man by the presence of disease-bearing arthropods. And where they do not exclude him altogether, they are man’s chief competitors for food and shelter” (Buchsbaum, p.240). These struggles for food and shelter are particularly evident in the case of agricultural expansion and the friction between the farmers who seek to produce profitable yields and insects whose occupation of territory predate humanity's intention of curating the land for our benefit. Insects interrupt the momentum of modernity, as Alice G. Den Otter writes in *Pests, Parasites, and Positionality*, “the agricultural revolution advanced, increasing soil productivity, the necessity for eliminating hindrances to profit likewise increased—thus making insecticide seem morally justified”, (Otter, p.216). Chemical

intensive agriculture has led to the need for frequent human intervention; pesticide treated soil has fewer regenerative properties; chemical treatments replace manure and compost vegetation; life is stripped down to manually controlled cycles and artificial rotation. As Greet Buchner writes in her book, *Be Nice to Nature*, “Nature uses her resources far more economically than so called *Homo sapiens*”, insects rapidly and efficiently convert waste material into nutrients, they are indispensable to the economy of nature (Buchner, p.74). Habitat degradation, deforestation, industrial expansion, climate change, weather intensity, introduced species, nitrification and agricultural intensification, among other human initiated changes in the environment, have all contributed to the decline in insect populations. This thesis directly responds to the harm caused by modern agricultural practices but chemical damage to biodiversity is a part of a large system of stressors leading to the population collapse of insects.

Human populations have shifted both in the scale and manner in which the land is inhabited. The evolution of agricultural and mining industries has monumentally altered ecological structures. (Merchant) Scientific literature increasingly documents widespread declines in insect abundance and diversity caused by overall shifts in viable habitat. David Wagner reviews the impact and causation of insect loss in *Insect Declines in the Anthropocene*. His paper published in the Annual Review of Entomology synthesizes global research on localized species and meta-analysis reports, both of which indicate a major loss. Bugs and invertebrates provide essential ecological infrastructure, and those systems are crumbling in the wake of industrial expansion. As Viki Hird mentions in their book, *Rebugging the Planet*, “We’ve lost 10 percent of all insects since 1970” and a review of global insect populations suggests that over 40% of

insect species are in decline (Hird p.5). There is a broad scientific consensus that insect populations are facing decline in abundance, overall biomass, species range and growth. This loss of biomass creates a significant gap between primary producers and consumers in a multitude of terrestrial and aquatic ecosystems across the planet. The loss of pollen vectors and nutrient cyclers also poses an economical risk.

The publication of *Silent Spring* by Rachel Carson in 1962 radically shifted public discourse on environmental issues and drew direct attention to the ecological consequences of pesticide use. Carson's work exposed the dangers of the chemical pesticide DDT¹ and revealed the risks of bioaccumulation and biomagnification, pointing to the buildup of toxic chemicals through the food chain (Carson). This research restructured environmental activism and brought much needed attention to insect populations. Modern pesticide use has been linked to a range of adverse human health outcomes, including endocrine disruption, osteoporosis, neurological disorders, and increased risk of respiratory illness and cancer. particularly through chronic, low-level exposure (Kim et al).

While the risks of DDT, Organophosphates, Carbamates, Pyrethroids and other chemical pesticides are now more common knowledge, data on insect decline, partially caused by pesticide use, has only begun to be published within the last couple decades. In 2014, Defaunation in the Anthropocene was the first metanalysis to report global cross-lineage insect losses for beetles, dragonflies, grasshoppers, and butterflies; public attention as well as biologist concern has grown since (Wegner, Grames, Forister, Berenbaum, Stopak). Global efforts to conserve insects have

¹ dichlorodiphenyltrichloroethane

increased over the past decade, but the continued reliance on pesticides and insecticides to protect agricultural profits remains a pressing challenge. Internationally, countries have been successfully passing legislation to ban chemicals proven to be harmful to humans and organizations like Toronto Entomological Association (TEA), and The Xerces Society, continue with initiatives to educate communities on ways to protect local insect keystone species (TEA, Xerces Society). Community advocacy for the protection of insects is up against the opposing force of the global agro-industrial economy that drives the demand for monoculture crops and pesticide use. Policy protection for invertebrates and shifts in agricultural regulation are vital in conservation efforts, but individuals still have access to an entire market of products designed to profit off the collective fear and repulsion associated with insects. Insect declines are not exclusively caused by agricultural and urban pesticides, but the application of these chemicals is influenced by cultural attitudes toward insects. I believe that art has the potential to influence these perceptions, offering a means to reshape cultural attitudes and indirectly address one of the factors contributing to insect decline.

Literature review

I leverage humanist attachment to our own anatomy to challenge speciesism as well as to reveal the destructive nature of chemicals that we rely on to enforce our governance of resources and biodiversity. Reworking our relationships with insects is, in my opinion, a vital step toward dismantling colonial understandings of nature and fostering ethical coexistence grounded in post-humanist and intersectional thinking. In

this paper I outline not only the ecological importance but also the psychological importance of insects in our lives.

In researching insects and their cultural perception, I have combed through archives of entomology, ecology, general anatomy, agronomy, and social sciences.² Insect human relations have been archived in a variety of disciplines: my research began with an ethnographic survey on global historical accounts of insects. I have utilized household pamphlets, extermination booklets, local field guides, and agricultural reports about pest maintenance. I conducted a visual analysis of how the insect has been captured through art, surveying digital museum collections where insects can be found scattered through illustration, painting, and craftwork. This process aligned with the field counts of insects that I was conducting as part of my practice and my engagement with the Toronto Entomological Association. I sought out insects in both artistic depictions and in spontaneous daily encounters. As I studied old entomological textbooks, I came across Marcello Malpighi and Jan Swammerdam's depictions of insect dissections; their illustrations of internal nervous and circulatory systems became a central point of interest my research and I began to identify a pattern of anthropomorphizing of insect bodies through comparative anatomy which can be seen in figures 1 and 2. In spite of our massive differences in physical structure, scientific illustrators have rendered insect bodies in alignment with our understanding of our own body; this structural connection is what has inspired the sculptures within my thesis and has informed my practice of further entangling insect human bodies while appropriating reductions of the insect to

² The Archaeological Review from Cambridge - 39.1 Human Insect Entanglement: Past, Present, and Future was a key source in understanding histories of insect human cohabitation.

create a new presentation of their forms that I have designed to act as ambassadors for the campaign of insect conservation.

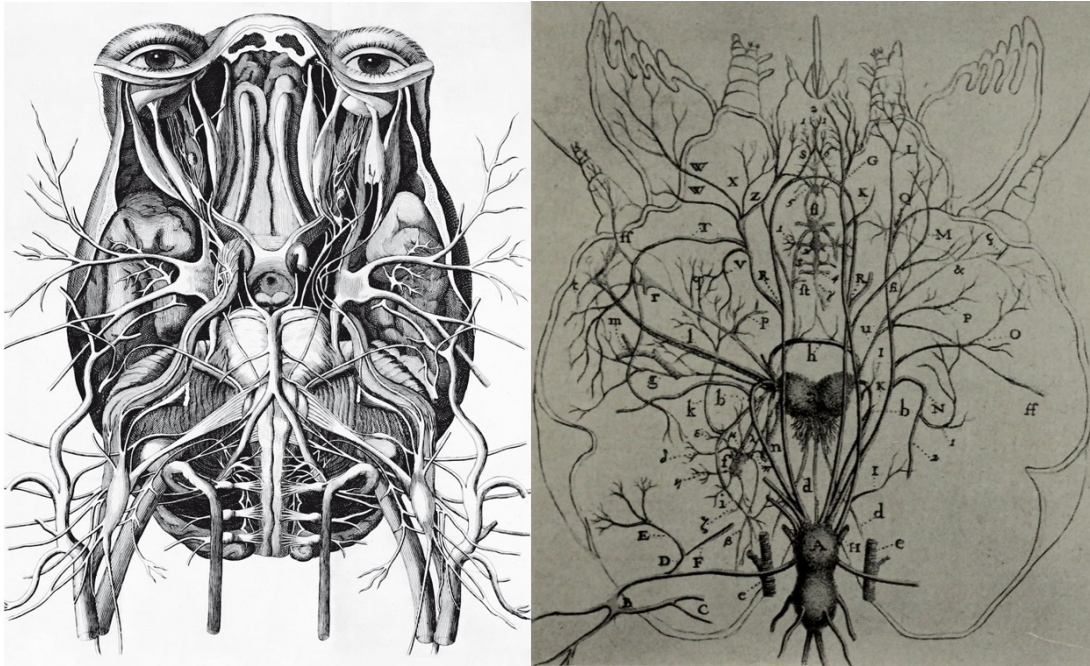


Figure 1 (left) The Human nerves and vascular system Plate III from Lecat (Claude-Nicolas), *Traité des sense*, Amsterdam : J. Wetstein, 1744, p. 78.

Figure 2 (right) *The Brain and Head Nerves of the willow moth*, Lyonet's monographs initially published in 1752, Locy, William Albert, 1857-1924 *Biology and its makers; with portraits and other illustrations* 1928 p.124.

The psychological importance of insects is evident in the emotional potency of our interactions; the butterfly fills us with wonder, the clumsy beetle evokes humor, and perhaps most importantly, the maggot evokes disgust, horror, abjection. Utilizing the theoretical framework of Julia Kristeva, I question the integrity of the human identity and work towards destabilizing the power held by the human body. My sculptures are in an implicit dialogue with artists working within the realm of abjection, situating themselves within a broader trajectory of contemporary art that interrogates the boundaries of the body, materiality, and cultural taboo. In the chapter; Convulsing, devouring, rotating,

feeling, from Mira Lee, *Open Wound*, Diana Akhmadeeva describes Lee's sculptural installations as "ambiguous, unsettled, restless bodies in tension between morbid liveliness" (Lee p.36). My works exist between the human and nonhuman, and the beautiful and grotesque. In this thesis, I pull from Kristeva's essay *Powers of Horror* and use her theory of abjection to conceptually develop the defamiliarization of species identity. I focus on the common abject encounter of insects within personal space and lean into the natural repulsion insects evoke as a disruptive experience that can be channeled into a moment of reconstruction. Additionally, Donna Haraway's works *The Companion Species Manifesto* and *Staying with the Trouble* both offer an escape from our body and encourage a reconsideration of human identity. In this paper, both theorists' works are used in tandem with fragments of post-humanist philosophy to illustrate the importance of my invertebrate focal point and to push against cycles imposed by humans upon ecology.

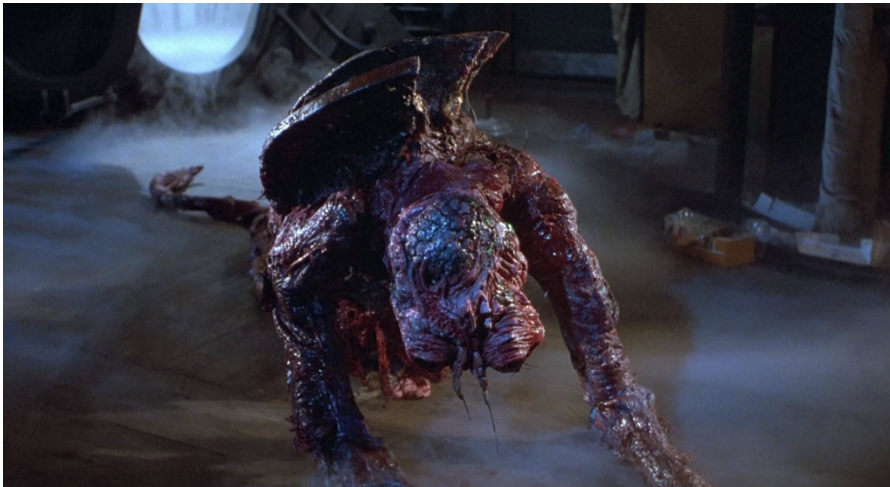


Figure 3 Brundlefly's demise, Still shot from the iconic sci-fi movie The fly (1986) directed by David Cronenberg. Fair Dealing copyright

The blending of human and non-human has been a point of mythology production within the genres of science fiction, horror, and philosophy. Becoming an insect has famously been explored by Franz Kafka's work *Metamorphosis* and David Cronenberg's film *The Fly*. Both works explore the alienated experience of insects within labor culture, the insect being the ultimate othering and therefore an experience of horror. In *Metamorphosis* the central character, Gregor, awakens in the body of an insect, in this body he is incapable of contributing to the human workforce and therefore is seen as a burden and a monstrosity, this physical transformation illustrates the manner in which his entrapment in the labor system has already dehumanized him. Gregor passes away due to social isolation and neglect and is discarded as vermin rather than grieved for as human (Kafka). Seth Brundle in *The Fly* suffers a similar social rejection after an experiment results in a grotesque genetic transition from human to insectoid creature (Cronenberg). The features of the fly emerge from wounds, and human anatomy is shed and placed in a sort of curiosity cabinet by Brundle himself. The film ends with Brundle, or as he is then referred to, Brundlefly, seen in figure 3, fused with the machine of transfiguration itself after another failed attempt at regaining humanity, the allure of scientific progress resulting in a mutilated cyborg being that pleads for a merciful end to its existence. In both works the physical metamorphosis of man to insect functions as process of devaluation and isolation; to become insect is to lose social and economic and function. In this thesis, I reflect on how these transformations and other insect hybridizations contribute to negative portrayals of bugs, and I respond with my own hybridization made with intentions of offering a

different cultural reading of the insect body. The work further engages the notion of othering and uses the alienation of the insect to expand human identity.

Insects are embedded in the visual culture of societies through history, but the public acceptance of insects has historically depended on their aesthetic value or the commercially viable labor offered by insects.³ Insect intricacy and vibrancy have captivated humans but our fascination with these chromatic features has not led to the protection of insects. On the contrary, this admiration has often been a motivation factor for the culling, collection, and categorization of insects. We have killed insects whether they evoked disgust or adoration. Julia Janicki's *The Collapse of Insects*, Vicki Hird's *Rebugging the Planet*, and Monique Allewaert's *Insect Knowledges*, establish the instrumental value of insects while *Critical Post-humanism for All: A Call to Reject Insect Speciesism* by Richard White and Hannah Gunderman addresses the intrinsic value of insects as living beings. These sources, along with other scientific publications cited in my thesis, are used to establish the importance of insect preservation regardless of humanity's favor or disgust. My sculptures aim to restructure insect encounters to prime my audience to critically engage with these scholars' arguments made on behalf of insects with the base intent of protecting the greater ecological system we exist within.

Bill McKibben's *The End of Nature* and Carolyn Merchant's *The Death of Nature* expose how civilization's growth has come by transforming nature into a realm designed for human ease. Both McKibben and Merchant argue that the expansion of

³ While a group of cockroaches is called an intrusion, a gathering of ladybugs is called a loveliness (Otter).

industrialization and agriculture has resulted in the end of nature as a separate untouched entity; we have spent the centuries following the invention of the plow, evolving our strategies for controlling organic systems (McKibben; Merchant). As Merchant writes in *The Death of Nature*;

Today inorganic nitrate fertilizers and chemical pesticides, which have lasting soil-depleting residues and have unanticipated side effects, the monoculture of high yield grains subject to large scale devastation by pests and disease, and the impetus to continually bring new “virgin” lands into cultivation for the market all disrupt established ecosystem balances (Merchant p.52)

American western expansion helped cement the idea that culture is superior to nature. (Merchant p.144). The ecological damage from the expanding agrarian economy has been exacerbated by the western demand to not only feed our society and livestock but to make a profit doing so. Insects have suffered particularly through the rise of mechanistic science and industrialization. McKibben and Merchant’s arguments of how human activity has impacted ecology are central to my choice to work with metal and have directed how I frame the practice of melting components of industrial systems to cast the works within my thesis.

Contextual Review

In reflecting on insect-human relationships, I have also considered the ways in which I am operating in conversation with artists that appropriate insect labor or treat preserved insect bodies as a sculptural material. There are a multitude of contemporary artists who use insects in their practice: Agnieszka Kurant works with termites to create collaborative sculptures linking hive behaviors to labor in a capitalist centric society (Kurant); Aganetha Dyck colonizes human artifacts by encouraging bees to encase

readymade objects within their hives (Dyck); Hubert Dupra intervenes in the lifecycles of caddisfly larvae, providing them with precious material to build the protective casing they construct as external protection (Dupra); Liang Shao raises silkworms as a studio practice, encouraging the caterpillars to coat heavy metal chains in their cocoon thread (Shao); John Knuth uses house flies' digestive methods to create collaborative pointillist paintings (Knuth); Sarah Hatton and Jennifer Angus pin dead insects into decorative patterns in large-scale installations (Hatton; Angus). While I share an appreciation for the beauty found within insects' anatomy and an objective of campaigning for the appreciation for insects, my thesis moves beyond external aesthetics. The goal of my thesis is to force an alternate portrayal of bugs, and to destabilize anthropocentric biases without exploiting or further reducing insects into a symbol or a phenomenon. As said by Rachel Poliquin in her book, *The Breathless Zoo: Taxidermy and the Cultures of Longing*, "Preserving that husk and claiming that it is still the creature is a disturbing confusion of corporeality for presence, or worse: it suggests that what has departed is not particularly missed" (Poliquin p.208). The absence of the insect itself in my work speaks to the ethical concerns of appropriating animal bodies and exploiting their labor, but also to the loss of insects that my work addresses. I have elected not to include any insect specimens as I am not using the external aesthetics of insect species as grounds for protection.



Figure 4 “I had seen the centuries” by Ivana Bašić in *Metempsychosis: The Passion of Pneumatics 2024*. Photography by Sarah Ringrave. Courtesy of Ivana Basic Studio.

This exhibition can be read in close conversation with the contemporary installation works of Ivana Bašić, the literature of Franz Kafka’s *Metamorphosis*, and the science fiction creatures of *Starship Troopers*, *The Fly*, and *Alien*, each of which I reflect on separately within this thesis paper. The abject Endo/Exo skeletons of my thesis exist in an adjacent universe to the work of Ivana Bašić, who also pulls together insect and human bodies to create sculptural encounters that situate, “the dissolution of the body and the material world, not as a loss, but as a moment of radical potential”, (Bašić). In her solo show *Metempsychosis: The Passion of Pneumatics at Schinkel Pavillon* (Berlin), Ivana uses metal, wax, glass, and stone to explore metamorphosis as an allegory for societal transformation. While Ivana and I both explore the biomechanical, primordial, interspecies friction, and the rejection of blurred identity through figurative casts, I have scraped the flesh off the bone. The external contours that indicate a human form are absent, and instead, the human is found within stretched skin and skeletal mutations. The fragments of humanity within my work come from the dissected

and deceased human body; they are unable to speak to narratives of escaping the limitations of the body, like in Ivana's work, but rather act as objects that extend my personal grief for the loss of insects our ecological systems presently face. My work reaches towards a speculative future from the site of the grave. Like Bašić, I use chimerical bodies to speak of the fragility of the human condition and gesture to the ethics of post-humanism. While Ivana pulls from the collapse of their native country and the violence and brutality experienced through war, my work reconciles with the violence imposed by the agricultural and industrial systems, it is because I aim to express the shared suffering of insects and humans from this violence that I strip more of the human away, reducing the body to its base structure, the bones not even insects themselves are able to deliquesce.

Framework and Research Questions

The work within my thesis specifically addresses the metal and chemical inventions that have resulted in a decline of insect populations and diversity. The material choices in my thesis body of work have been made with the intention of pushing against these industrial systems and problematizing the practices of settler colonialism. I situate my material transformation as a form of metamorphosis and compare the reprocessing of industrial and agricultural waste to the lifespan of insects. It is through this material digestion that I process my own role within the Anthropocene, my indirect relationship to the decline of insects, and grapple with how to center my concerns for ecology while acknowledging the environmental impact of my life and art practice. Through this thesis I operate as a transmutationalist working with molten

metal, anatomical slurry, and the liquefaction of colonial biases, asking how insect morphology and their journey of metamorphosis can be reconfigured into a narrative framework that offers a guide to transforming culture. This thesis takes an artistic initiative in shifting cultural bias; reframing encounters with insects with the desired output of serializing bugs as vital agents in the ever-delicate living fabric of our biospheric systems, encoding the necessity of cohabitation and a reconfiguration of our perceived role within nature. While the motivation for my work comes from current research within the field of entomology, my approach was further informed by an analysis of theory that engages with psychological analysis of fear and abjection and post humanist texts that grapple with our place in the Anthropocene.

The central questions I have asked within this thesis research are:

- 1. In what ways can hybridizing insect morphology with the human body destabilize anthropocentric hierarchies, challenging speciesism and fostering post-humanist principles of shared vulnerability??*
- 2. How can the materials that have led to the decline of insect populations be used to challenge our entitlement to earth's resources and illustrate the ways in which our efforts to control, contain, and harvest the natural world have led to the collapse of natural systems??*
- 3. How can sculptural and installation-based artwork reconfigure our encounter with insects and shift the socially constructed and biologically ingrained aversion most people have towards insects??*

Addressing the Cultural Perception of Insects

Post human post nature post insect

Through my research I have interrogated the cultural and epistemological frameworks through which humans have historically understood and represented the natural world and used scientific illustrations as artifacts of culture rather than visual

monikers of empirical data. Dissection is framed as artistic practice, and the records of such experimental work are interpreted as ledgers of developments in human perception. I have augmented these systems with a rendition of the essence of insects and an inclusion of different biological signals, meshing human and insect morphological structures, of bones and nervous systems. This process of montaging anatomical structures develops figures that are dual symbols of humans and insects. In understanding identity politics of humans and organisms I have pulled from *The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others* (1992) and *The Companion Species Manifesto* written by Donna Haraway.

Efforts to understand nature through the practice of science have resulted in a biological distancing of human bodies from the overlapping mesh of living matter we live within (Merchant).⁴ Aspirations of knowing nature have been channeled through projects of taxonomy and specimen collection that promise preservation and neglect conservation of the source. As Donna Haraway explains in *The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others*, "Expensive projects to collect "nature's diversity" and bank it seem to produce debased coin, impoverished seed, and dusty relics. As the banks hypertrophy, the nature that feeds the storehouses "disappears" (Haraway p.296). We are barreling towards a future in which the stagnant swarms of insects that lie pinned in place within the cave systems of museum collections outnumber the insects that crawl upon the earth's surface. Specimen collection and taxonomical curation are practices linked to histories of colonialism, in

⁴ Taxonomic systems were developed at the beginning of the 18th century as apart of scientific campaigns to impose order onto the external world. These arrangements were methods of organizing species within heretical systems in which humans are defined as biologically and socially superior to all other species.

exoticizing foreign land and ⁵ nature. The social and scientific interest in insects has often been fixated on aesthetic intrigue, on vibrant color curious form, delicate detail.

This history of collection and aesthetic bias is perfectly captured by scholar Maria Zytaruk) who writes in *Nature on the Page: The Print and Manuscript Culture of Victorian Natural History*:

Unscrupulously we destroy every insect whose presence displeases us, harmless as they may be to our own persons. The aphids on our flowers, the moths in our furs, the "beetles" in our kitchens—all die by thousands at our pleasure. Then, if all this be right, are we not also justified in appropriating a little butterfly life to ourselves, and does not the mental feast that their after-death beauty affords us at least furnish an equal excuse for their sacrifice with any that can be urged in favor of any animal slaughter, just to tickle the palate or minister to our grosser appetites?(Zytaruk p.84)

Zytaruk captures the anthropocentric attitude of Victorian naturalists, summarizing a history of vivarium amphitheatres and terrarium cages. Alive or dead, placing insects under glass cases “reinforced Victorian's sense of mastery over the created world” (Zytaruk p.98). Whether they were pinned still as specimen or captured for observation, the insect was a subject used as method of elevating status and affirming human superiority and dominion.

My thesis contests these histories' objectification. In *The Promises of Monsters*, Donna Haraway explains, “Science fiction is generically concerned with the interpenetration of boundaries between problematic selves and unexpected others and with the exploration of possible worlds in a context structured by transnational technoscience” (Haraway, p.300). I see my sculptures as what Haraway calls

⁵ I expand upon this idea using the critical framework of Monique Allewaert within my sub chapter; Recentring Indigenous knowledge

“Inappropriated Others”, subjects generated from speculative fiction, a partial reproduction of self and partial fusion. The use of industrial metals and integration of audio technology within this sculptural project converts these “Inappropriated” beings into cyborgs, the forms themselves a stage for engaging discussions of what constitutes machine and organism.



Figure 5 moth copulation, wax model, Photo by author.

The silkworm/moth is an organism of pointed focus in this body of work, the animal was used as reference in both its larva and adult moth states in addition to the moth’s woven cocoon, heavily influencing material strategies taken in my development of the textile prints. I argue that the silkworm can be viewed through Donna Haraway’s conception of cyborgs. Silkworms are animals whose evolutionary stories have developed under human influence; their artificially shortened lives serve as propulsion for the corporate industry of silk production and, through selective breeding, the silkworm has become a human technology.⁶ The animal’s nature has been altered to exist as a system for profit as “cyborgs—compounds of the organic, technical, mythic,

⁶ Sericulture, the practice of silk farming has been practiced for thousands of years and originated in china. The domesticated silkworm is often boiled alive before the pupa can emerge from its cocoon and tear through its silken casting, an act that results in silk threads of inferior quality. Moths that are able to live to adulthood are incapable of flight, lacking the ability to function as a wild species.

textual, and political” (Haraway p.301). The silk producing organs of this insect are culturally read as machine and by extension the organism is viewed as a part of technology that no longer has relevance of place within ecology. The disfiguration then enacted in the process of harvesting silk is relieved of a level of scrutiny due to the idea that any suffering the insect undergoes is viewed as a consequence of industries we are helpless to resist. The pain inducing modifications to the lives of silkworms are further enabled by the collective assumption that insect suffering is in some way incomparable to our own and therefore irrelevant. The callus developed from perceived distinctions between human and insect anatomy is what I hope to slough off with the projects undertaken in my thesis.

My work revolves around identifying similarities and visualizing joint suffering under systems created by humanity to enforce barriers of human and nonhuman engagement. While the silkworm is an immediately obvious example of an organism that has undergone metamorphic shifts influenced by human intention, humans have also pseudo-domesticated bees, coccinea beetles, lac insects, fruit flies, and ladybugs, among others. Cockroaches, house centipedes, house flies, bed bugs, and a multitude of insects have evolved in sync with human civilization; genetically evolving resistance to the synthesis of new insecticides.⁷ The encounters that we have with insects are encounters with cyborg bug beings, organisms whose bodies speak to histories of fraught contact and continuous technological developments. The physiology and behavior of these species has been reconfigured through their adaptation to or from technology, the *aedes aegypti* (yellow fever mosquito) an example of an cyborg species

⁷ A multitude of Insects have allied themselves with humans for optimized survival, “There are an estimated ten cockroaches for every human in the average metropolis” (Glausiusz, Steger p.14)

that has been genetically modified in order to regulate its population (Nova p. 53). The hybrid bodies of my Endo/Ecto skeletons and act as Insect-Human- Cyborgs, speaking to how insect relationships have always been mediated through technology.

The bodies in my work stand as preemptive corpses of ecological annihilation. Most campaigns that advocate for insect conservation sever the insect from society. Scientifically, we have evidence for the importance of insects, as I have reviewed earlier within this document; however, so many of these initiatives isolate the insect as animal that must be protected for the benefit of human. The salvation narrative is ineffective and detached; as Haraway writes, “scientists speak as if they were the mouthpiece for the speechless objects that they have just shaped and enrolled as allies in an agonistic field called science” (Haraway, p.312). The separation between insects and humans via scientific classification has created the field of entomology in which the human and the insect are further defined as separate beings. Haraway points to a method of transversing boundaries of identity and establishing companionship which I have aimed to replicate within my works.

Within the trouble of the Anthropocene, interspecies collaboration is even more pertinent. My work specifically asks how artistic process can reenvision interspecies dynamics, producing speculative fictions that generate perspective shifts in our day-to-day life. I don't have the desire or capacity to change the nature of human or of insects; however, the choices we make in directing our cohabitation can be shifted to better suit both species. My work has both a social and a personal directive: to call into question the ethics and safety of using commercial pesticides, and to probe into the motivation behind pest control, pushing for a reevaluation of the category of pest itself. In

undertaking this research, I am responsible for maintaining ethical considerations of how I can produce work that advocates for ecological care without recentering the human. While I am unable to intervene in the systems of both urban and agricultural pesticide use, my objective is to use my platform as an artist to advocate for insect protection. The sculptures propose alternative modes of relationality grounded in entanglement, reciprocity, and ecological awareness, inviting a reimagining of how we coexist with and conceptualize nonhuman life.



Figure 6 Familiar Alien, Caterpillars glowing under UV light photographed in High Park July 2025, Photo by Author.

Facing the Alien, Monster, Other

Insects are distinctly non-human; we search for ourselves in their behavior and analyze their social structure, combing for moments of synchronous morality or shared culture, but they remain fundamentally other and endlessly distinct, indifferent to our attempts at connection. Insects and arachnid bodies are often used in the development of horror and science fiction antagonists. Notable examples of this can be found within the *Xenomorphs of Alien* (1979), and the insectoid creatures of *Starship Troopers* (1977). These films portray insects as parasitic contaminants, hive mind swarm's incapable of compromise or human reason. The fictional placeholder for the insect is situated as an Invader and a threat to humanity. In their article, *The War on Bugs*, Salama Udaipurwala argues that Rachel Carson's publication of *Silent Spring* ushered a wave of environmentalism that damped the public interest in films that villainized insects, as the annihilation and eradication of insects came under more public scrutiny (Udaipurwala). The insect-inspired Formics in *Ender's Game* (book 1995, film 2013) serve as an example of how public perception around insects has shifted. While the Formics within this work are initially positioned as alien enemy, the work ultimately condemns the genocide of the Formic species and ends with Ender, the central human character, working to save this alien species. Fiction transforms insects "from nuisance to mortal threat" exacerbating the perceived disruption of the insect (Udaipurwala).

In the book *Buzz: The Intimate Bond Between Humans and Insects*, Maurice Maeterlinck is quoted stating, "something in the insect seems to be alien to the habits, morals, and psychology of this world, as if it had come from some other planet, more monstrous, more energetic, more insensate, more atrocious, more infernal than our

own” (Glausiusz, p.10). While the structure of insect bodies is foreign to our own anatomy, insects are present in almost every facet of our everyday lives, traces of their bodies remain in our food, they inhabit our beds, carpet, clothing, sewage; they splatter into our windows and across our pavement. While some artists invent personalities for insects or feature insects as workers to advertise their ecological utility, I instead embrace their foreign nature.⁸ My sculptures fail to return the gaze of the viewer and plead for mercy; they hold no face to mirror emotions or expression to evoke companionship.

The work is designed to challenge what we know about insects and how we conceive their ability to feel. Early illustrations of insect nervous systems, like in figures 1 and 2, show how anthropocentric our notion of feeling is, how we conflate what it means to be human with what it means to be alive. In advocating for the protection of insects, I have also investigated factors that have contributed to negative perceptions of insects, as depictions of insects within science fiction and art have contributed to negative perceptions of insects, it is my hope that hybridizing anatomy can also create an inverse cultural response and become a method of dissolving animosity.

Enduring Abjection

In this thesis, I argue that our encounters with insects inform our perception of our position within ecology. The agitation stimulated by encountering insects is an important reminder that we are animals and that we have evolved codependent with the

⁸ Here I am referring to artistic interpretations of insects that apply human features to insects to bolster their appeal, this method is often used in folk tales and media designed to appeal to children like Miss Spider's Sunny Patch Friends (2004-2008), A Bugs life (1998), Atom Ant (1966-1968) , James and the giant peach (1961), and the very hungry caterpillar (1969).

species we inhabit the earth with. Insects breach our barriers and cross thresholds into intimate space. The mosquito lands and sucks up our blood, harvesting what sustains us, piercing through our personal boundaries. We are in frequent contact with insects that we are unable to ever truly sever. As Vicki Hird writes in their book, *Rebugging the Planet*, “The intimacy with which our lives, even our skin, are entwined with insects is rarely considered” (Hird p.11). Bedbugs target us in our rest, rupturing a site at the core of human intimacy, roaches roam within our walls, antennae peeking out from drain grates. The insect operates unaware of human social conventions of personal space; we perceive their actions as transgressive regardless of whether they are causing actual harm. Insects operate within our spaces with or without building trust, drawing attention to the fragility of the human domain. These encounters evoke instinctual disgust, and in positioning us to face the potential of our own vulnerability and mortality, they expose our raw nature. Additionally, Insects consume us; we become sites of subsistence. After our deaths, insects are agents of change, transitioning our matter into the bodies of smaller living organisms. There is a terror in facing the creatures that will inevitably devour the bodies we spend our lives defending from harm.

I work to explore human identity within this project by reflecting on how the fractious relationships we have with insects expose an inherent vulnerability of our bodies. This project pulls from Julia Kristeva’s theory of abjection as a method of understanding the disgust and fear insects evoke. As Julia Kristeva writes in her essay *Powers of Horror*, “We may call it a border; abjection is above all ambiguity. Because, while releasing a hold, it does not radically cut off the subject from what threatens it—on the contrary, abjection acknowledges it to be in perpetual danger” (Kristeva, p.9).

Insects are devours: they bite us, they infiltrate our intimate spaces, dismantling senses of security and perceived superiority. Insects are a part of the non-built world we are unable to banish; they fill our margins worming their way into the divisions we build to isolate ourselves. The house centipede and bed bug have both been given common names that speak to the nature of frequent encounter, defined by their position within human-occupied territory. While the interaction poses no mortal threat, the presence of an insect in one's bathroom is an occurrence associated with contamination, connected to the perceived moral failure of being unclean. "It is not just a lack of cleanliness or health... [that causes abjection, nor is it] a wound with blood and pus, or the sickly, acrid smell of sweat, of decay... [it is also that] disturbs identity, system and order [as well as] does not respect borders, positions [and] rules", (Kristeva p.4). While the house centipede is an organism that helps regulate the presence of "pests" within the home, its ecological role is ignored, overshadowed by disgust for the violation of space itself. This thesis does not attempt to define the line between cohabitation and infestation; the project aims to present insects as more than the "problem" of their reputation and push against the normalization of complete eradication. Termites, ants, and beetles are prime examples of insects that pose real threats to domestic spaces and building structures. Additionally, select species of mosquitoes, fleas, and lice are often vectors of disease and pose a genuine risk to human health. Hostility towards some insects is rooted in self-preservation, but I argue that our reactions have been misdirected and disproportionate to the threat that some insects pose.

Urban cities are sites of ecological negotiation and cross species compromise if not collaboration. In this thesis. I have reintroduced the form of the insect in a method

that counters social perception of insects as infiltrators into human domain. The works within my thesis exhibition are rooted in the ground and embedded into the walls. The work does not seek to resolve this animal tension or offer interspecies treaties of peace but asks viewers to consider insects as more than mortal enemies. As I construct the metal bodies of my work, I have used sharp points as features that indicate a piercing function. I am inspired by the fear we hold onto from the culmination of bee stings, mosquito welts, bed bug bites, and tick latching. While I aim to ease some of the tension within insect-human relationships, I cannot deny the moments in which our bodies are penetrated and our fundamental boundaries are violated. I strive to present insects as being capable of so much beyond these points of violent collision. My sculptures maintain a sharp edge, acknowledging the valid threat that insects pose and recognizing their role in compromising human health through allergic reactions and the spread of diseases- maintaining a level of risk. While I cite the disruption that insects cause as productive discomfort, the objective of this work is to pull viewers from a place of repulsion to a more neutral space that facilitates deeper reflection of insect-human futures.



Figure 7 wasp nest photographed in High park, the ancestral territory of the Wendat, the Haudenosaunee, the Anishinaabe, and the Mississaugas of the Credit. High Park serves as a site that speaks to histories of indigenous stewardship with the land. October 2024, Photo by author.

Recentring Indigenous Knowledge

Humanity has been grappling with how to coexist with insects for our entire existence on earth, Indigenous practices have been abandoned in favor of mass synthesized chemical solutions which in their lethal effectivity have created new problems technology has yet to resolve. The indigenous viewpoint of what Western science has attempted to define as ecology is an entirely different living spiritual body. As Vanessa Watts writes in their work, *Indigenous Place-Thought & Agency Amongst Humans and Non-Humans*:

Over time and through processes of colonization, the corporeal and theoretical borders of the epistemological-ontological divide contribute to colonial interpretations of nature/creation that act to center the human and peripherate nature into an exclusionary relationship (Watts, p.26).

The western distinction of humanity as a separate entity from nature entrenches human-only agency, and this epistemology was a key factor in the justification of colonial violence and the undermining of indigenous relationships with the land and non-human. As we mangle biological systems that have been in effect since before we attempted to establish a world that centers human interests- we turn towards technological innovation as a new age religion that will deliver us to eco-utopia and absolve our environmental sins, washing our hands of the petroleum and soot that mark our avarice. We have displaced insects from the biomes they thrived in for millennia and built an urban maze of underground tunnels, wet, cool crevices, and monoculture crop buffets that we then try to expel them from. Insects serve as the foundation for our ecosystem and yet we destroy their habitats and deny them access to spaces we have built on the land they once lived on undisturbed on for generations. This entitlement to land and disregard for the sanctity of life is directly related to the colonialist expansion of the Americas and the sanctioning of mass violence that expelled and extinguished generations of indigenous people from the very land on which I have conducted my thesis research. Indigenous methods of caring for land and leveraging biodiversity are fundamental to sustaining the environment and must be rightfully acknowledged. In the first term of my studies at OCAD university, I was gifted tobacco leaves by Toronto performance artist Peter Morin and learned through him the tradition of making a tobacco offering to the land. It was months later into my research of historical pesticides that I encountered historical citations of tobacco used as an early agricultural insecticide in addition to its use in ceremonies, sacred rites, rituals, and medicine. The use of tobacco, sweetgrass, rancid fats and oils, tar, the crushed-up bodies of ants or termites,

citronella leaves, and other pungent regional plants are all techniques that can be traced back to the traditions of native communities. These traditions have now been abandoned in favor of dependence on agricultural management companies like Bayer, a corporation that has had to pay hundreds of billions of dollars to resolve thousands of Roundup cancer lawsuits in recent decades.

In this thesis I identify pesticide use as threat to both ecology and culture. Indigenous practices of coexisting with insects and caring for land have been displaced by exploitative, capitalist models of land use and chemical applications that pose major threats to insects. In *Insect Knowledges, Power, and the Literary*, Monique Allewaert examines how insects have historically shaped systems of knowledge, colonial power, and literary representation. Allewaert directs readers to consider how the methods used to colonize and terraform north America created an ideal habitat and food source for insects, how modern farming techniques drew insects out, and how we have turned to chemicals to attempt to regulate the unsustainable system this disruption to ecology has caused (Allewaert p.461). Insects slip between cracks, swarm and disappear, metamorphose and molt into something with entirely new potential. It is in studying the insect that we can find inspiration to shift and operate as they do. Allewaert situates the insect as an agent of productive disruption, “by turning attention to the small scale, thinking with insects problematizes the large scales and systematizing abstractions on which a good bit of contemporary environmental criticism turns (Anthropocene, Capitalocene, Plantationocene)” (Allewaert p.464). The publication *Critical Post-humanism for All: A Call to Reject Insect Speciesism* By Richard White, and Hannah Gunderman further illustrates the impact of settler colonialism on our perception of

insects, noting the use of insects as an insult in popular culture (maggots, roaches) and arguing that the discrimination of any lifeform is directly related to mistreatment of other living beings. Any call to reimagine our relationship with nature must begin by recognizing that Indigenous communities have long lived in alignment with these principles.¹⁰

Form

This work attempts to invalidate speciesism through synchronizing anatomy. Insects are creatures of radically different scale, social function, expression and physical structure. I argue that differences in form contribute to hostility towards insects and work to resolve this difference through bio-surrealist hybrid structures.

When working to connect humans to insects there is a barrier of massive difference in internal and external structure, this thesis investigates how stylizing anatomy can challenge biological reductionism and create a more nuanced portrayal of living organisms. The work challenges binaries of human and technology, human and nature, the human and matter. In approaching this work, I have embraced an intuitive style hybridizing insect morphology with the human body to destabilize anthropocentric hierarchies and challenge speciesism. I ask how sculptural and installation-based artwork can reconfigure our encounter with insects and shift the socially constructed and biologically ingrained aversion.

¹⁰ Thought this research I frequently visited high park to conduct close observation of insects (documented in figure 6 and 7). This land is partially cared for by indigenous communities that practice annual controlled burns and prioritize collaborative stewardship. In 2019 the Indigenous Land Circle called for a cessation of all pesticide use within the park citing concerns for both self-determination, reconciliation, and ecological care. (Indigenous Land Stewardship Circle)

In this work, I leverage the familiarity of the human body to foster a sense of connection to other organisms, creating a bond of empathy while also acknowledging the autonomy of living creatures and the impossibility of knowing nature completely. Perception is mediated through the body, limbs serve not only as functional tools of defense but of navigation and outreach. We understand through touch; in joining the anatomy that enables this contact, I fuse sense and interpretation. Reshaping the limbs of which we feel with, and the nervous systems situated within the core of our beings, this work reimagines anatomical ties to identity. Bodies define our sense of self and visually distinguish ourselves as physical beings separate from other animals. In reimagining the body, I reshape the impulses that it contains, this approach can be seen within figure 9, the Endo/Exo Skeleton Tibia to tibia femur to femur joint appendages contort modified to the point where evolutionarily specialized function is recontextualized. I see challenging anatomy as a method of challenging mentality. The work questions what we have held as knowledge of insect bodies. The anatomical structures I have focused on within my body of work are the bones and skin of humans, the exoskeleton and wings of insects, and the interior nervous systems of both animals.

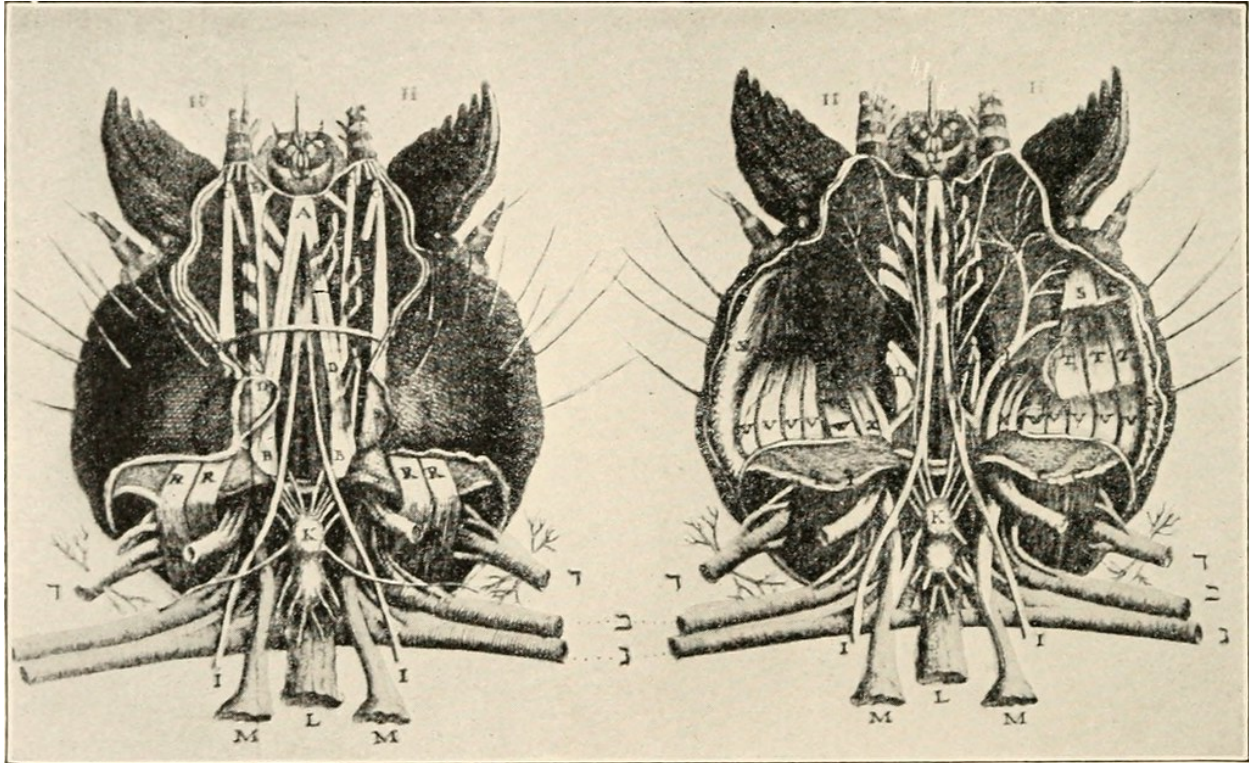


Figure 8 Lyonet's monographs initially published 1752 Dissection of the head of the larva of the Willow moth, Locy, William A, William Albert, 1857-1924 Biology and its makers; with portraits and other illustrations 1928 p.123.



Figure 9 Wax positive of End/Exo Skeleton. Modifications made to alginate casts of anatomical models of humerus radius, ulna, fibula, metacarpals, metatarsals, and phalanges of hand and foot. Photo by author.

The Endo/Exo Skeleton

This thesis asks: in what ways can hybridizing insect morphology with the human body destabilize anthropocentric hierarchies, challenging speciesism and fostering post-humanist principles of shared vulnerability? Both the Endo skeleton, of the human, and the Exo skeleton, of the insect, resist decay more than the liquid muck of our guts and watery organs. This enduring nature has enabled the collection, extraction, trade and display of both insect and human remains. My work interrogates the assigned scientific value of bodily remains, demonstrating how the transformation of a corpse into a specimen abstracts and ultimately diminishes the intrinsic worth of creatures themselves.

While our skeletons lie within us, insects bear their structural integrity on their exteriors. In reference to the external structures that make up the body of an insect Buchsbaum writes, “this horny material is to the arthropods what steel is to civilized man, and it is partly to the possession of this hard cuticle that arthropods have their success” (Buchsbaum .241). The cuticle consists of a waterproof waxy layer, a Horney layer of rigid and flexible chitin protein and an epidermis. This external armor serves as protective armor with elastic properties and joints that allow for mobility. Buchsbaum continues speculating that, “we can imagine how it might feel to be an arthropod by mentally putting on an iron suit of armor which adheres closely to the skin and then thinking of our bones being eliminated and our muscles being attached instead to the iron armor” (Buchsbaum, p.242). The exoskeleton of the insect communicates its function, notches carved out for cleaning antennae, hind legs littered with hairs to collect pollen, thoracic legs configured with pads, spurs and claws for jumping and

clinging. I combine these forms with the internal bones of the human body designed to protect precious interior organs and facilitate movement. The chitinous joint appendages of insects are serially homologous to correlating limbs in the same way that bone structures of human limbs and vertebrae relate to one another. In fusing the shape of these insect and human structures I complicate that evolutionary function. The insect's general body plan allows for "structural specialization for almost any mode of life", allowing insects like humans to distribute themselves around the earth more successfully than any animal including humans. (Buchsbaum p.276).

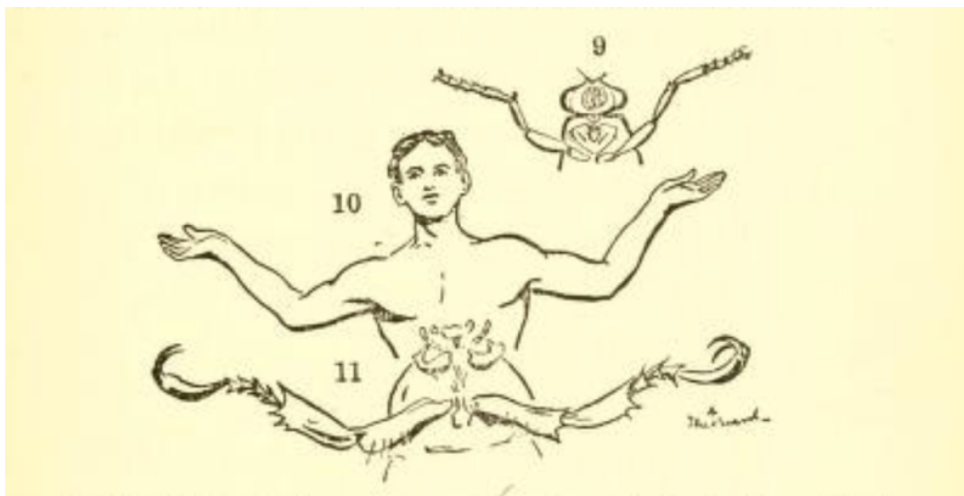


Figure 10 Comparing a beetle with a boy, *The American boys' book of bugs, butterflies and beetles* p. 25

There is a connection as species in our ability to occupy vastly different environments and thrive in such a wide diversity of habitats. The works in the figure 9 are a combination of the bones of the human limbs and the legs of *Eupatorus Gracilicornis* (Giant Rhino beetle) and *Prionocalus Cacicus* (Long horned beetle) that I sourced from my personal collection of naturally deceased insects. Through this

process, I magnified the scale of the insect's features, particularly ¹¹Satae.^[66] In using the bones of the leg the tarsus is made from the proximal and distal ends of the tibia and the tarsal claws are constructed from the metatarsals and phalanges. The compound structures of insect legs are highly specialized within each species and host a vast array of evolutionary specialization, including: swimming, burrowing, walking, and grasping prey. Sculpting these features broadened my understanding of the life of the insect, and in scaling up these structures, the complexity of insect anatomy becomes more immediately evident to the human eye, creating a potential for an expansion of knowledge about insects. This strategy of magnification in comparative anatomy can be seen in figure 10, which features a series of illustrations that summarize the fundamental kinetic similarities of insect and human bodies.



Figure 11 Initial rust print tests using household vinegar, table salt and water with spray application on handmade paper. 1–2-week durational exposure, frequent rehydration for optimized oxide reaction. June 2025, photo by author.

¹¹ The spurs located at the distal end of the insects' tibia are used for grooming antenna or digging while the hair like Satae provide sensory information.

Wings- Oxide Archive

An additional point of anatomical inspiration within my thesis was the wings of insects. These structures further separate the nature of insects and humans, liberating insect bodies from the flat terrain and offering them a secondary domain within the sky. A central intention of my research was to move beyond histories of taxonomic collections of specimens; by digitally rendering wings of insects and cutting their structures out in metal, this technique offers a new method of cataloging insect bodies that does not rely on additional culling. The wing prints as seen in figure 11 and 12, are a familiar contour, immediately providing an insect reference to my audience and offering a visual clue to the fact that all the sculptures within the exhibition are some sort of representation of an insect fragment. As I developed the other sculptures within my work, I found that many viewers have no previous exposure to illustrations of insect nervous systems. While the lack of awareness of insects' internal systems was a motivating factor for representing anatomy; wings are an important key that I have provided to assist in the legibility of this body of work. These prints are achieved by first saturating steel wings in Horticultural vinegar and salt, then pressing the metal into paper, allowing the oxide reaction to transfer from the metal onto the fibers. This process is an extension of the chemical patina used on my sculptural works; the technique mimics historical methods of pressing insect wings as a part of specimen preservation referencing histories of taxonomy this work evolves beyond. ¹²_[06]

¹² Ironically due to the chemicals used in historical preservation of insects, museum collections are saturated with biocides, collections that are now used in conservation efforts are also archives in which poisons persist.



Figure 12. Details of specimen pinned rust prints from installation. April 2026, photos by OCAD photography department.

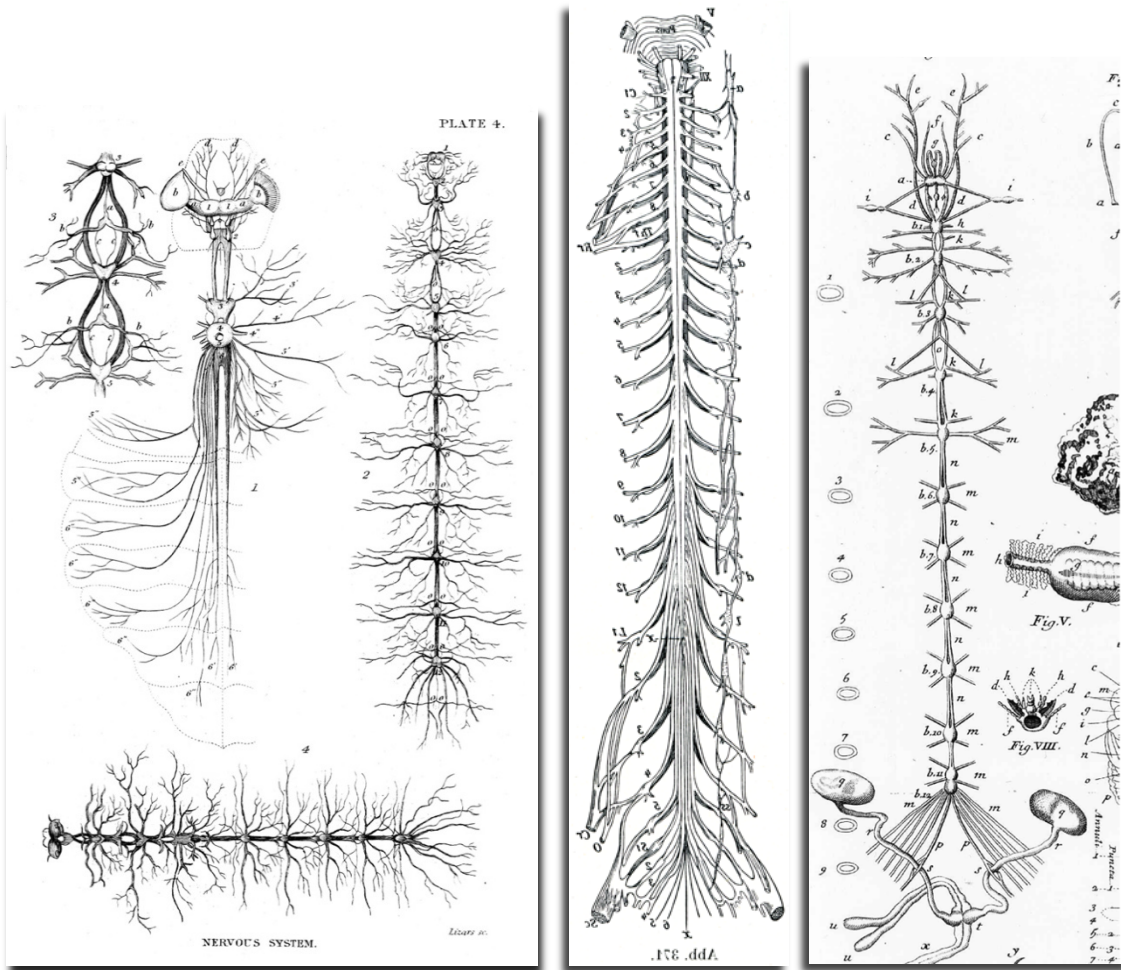


Figure 13 (left) Plate 4 Nervous System Jardine Naturalist's library Entomology . 1840
 Author James Duncan, Editor Sir William Jardine P. 353

Figure 14 (center) Human spinal cord Martin, H. Newell The Human Body: A Text-book
 of Anatomy, Physiology and Hygiene New York: Henry Holt and Company, 1900

Figure 15 (right) Nervous system of the silkworm caterpillar, Original ink drawing. ©
 Leiden University Library, of Swammerdam's Bybel der Natuure 1738

The nervous system - questions of consciousness sentience and sensation

Efforts to illustrate the nervous systems of insects directly contributed to techniques then applied to scientific developments in understanding the human body. Early illustrations of insect nervous systems show how anthropocentric our notion of animal feeling is, and how we conflate what it means to be human with what it means to be alive. I return to these early attempts at knowing insects and instead of seeking to represent “reality” with art; and distort the real subject with personal sentiment. In constructing these anthropomorphized figures. I sculpted each nervous system with different levels of visual information starting with rudimentary scientific illustrations from comparative anatomy textbooks and slowly introducing more contemporary references of insect neural systems. The first systematic dissection of an insect was published in 1669 by Malpighi Marcello, a few years later Swammerdam published the first illustration of an insect brain; both illustrations were used as points of inspiration for cultures within my thesis exhibition (Cobb). Marcello's research disproved the “Aristotelian tradition that insects have no internal structures apart from the gut” and opened up a deeper understanding of insect’s internal function through a microscopic analysis of the silkworm's anatomy (Cobb p.113). The illustration style of early comparative anatomy, seen in figures 13-15, reduces and fragments the body in efforts of translating physical form into two-dimensional maps; this process ends up abstracting the organ from the animal and the animal from its environment (Cobb p.144). As Matthew Cobb writes, “nature requires us to devote our pioneer works to simpler types before undertaking more complex works, and indeed we can recognize in the lower

animals the faint outlines of the higher” (Cobb p.113) The study of insects has revealed truths about human anatomy and established a style of scientific representation that has lasting traces in depictions of the body today. The perception of higher and lower animals has been deeply problematic in shaping how we view animals’ capacity for complex mental function. Scientists have attempted to identify reactions and behaviors in insects that are equivalent to humans. Despite the insect having what humans have perceived to be inferior complexity, insects have undergone millions of years more in evolutionary specialization, and rival humanity in their ability to occupy a broad range of environments.

Insect nervous systems are comprised of paired ganglia connected across the midline of the insect and joined to the adjacent ganglia. The level of fusion and proximity of the ganglia to one another depends on the insect. “Apart from a few motor elements which innervate the antennae and perhaps others which control the pigment migrations in the eye, motor neurons are almost completely absent from the brain.” (Packard p.96) The cerebral ganglia is largest in insects with complex social behavior like bees, which have been featured within the exhibition. While some reflexes are independent controlled by subsections of the ganglion most reflexes require the cooperation of multiple ganglion. Flight and walking are still able to be facilitated post decapitation. (Packard p.101)



Figure 16 insect nervous systems, Work in progress of bronze and iron. Photo by author.

The principal difference between this system in the caterpillar and the system in the body of the reader lies in the fact that the central station is not of so much importance in the caterpillar as it is in the man—in truth, the caterpillar has numerous sub-stations and it might be said that it has a separate brain for each ring of its body. The stations are made by bunching a lot of wires together, that is a lot of the nerves, and making a “ganglion” of nerves which in Fig. 5 we call the brain. The lower forms of animals practically have many brains or one brain running from one end of their body to the other, so that when you cut the creature in two pieces each piece is alive and remains alive for some time; (Beard p.22)

Insects that have been beheaded often still respond to stimulation of the nerves and are capable of walking and flight after decapitation, without the cerebral nervous

system some insects are able to survive for up to five days. The headless still functioning insect has functioned as a source of personal fascination to me, In examining the unstable boundary between life, death, and representation, the decapitated insect offers a particularly provocative example. As Roger Callois describes the Praying mantis's capacity to function even after decapitation, "I think for both language to express and for the mind to grasp that the mantis, when dead, should be capable of simulating death" (Lee p. 38) The paradox, of a body that continues to act beyond the point of death, destabilizes the distinction between organism and specimen, suggesting that what is preserved, displayed, or classified as "dead" may still retain traces of agency. This anatomical phenomenon highlights the profound differences between human and insect anatomy, the insect's 'mind' able to achieve function beyond human capacity.



Figure 17 Audio cerebral systems work in progress. *Photo by author.*

I sculpted my final two figures off insect brains using references of digital orthographic renderings made available through the insect brain database. These explore the shift in how our perception of insect intelligence and emotional capacity has shifted over time in relation to how we have been able to visually access those systems. Recently more research has been published regarding insect intelligence and capacity to feel pain radicalizing previous assumptions of insects as almost mechanical beings. My work questions what we have held as knowledge regarding insect bodies and rather than trying to produce an unbiased encounter, it suggests a new way of knowing and offers biological context to an interspecies dynamic limited by massive differences in neural capacity and methods of communication.

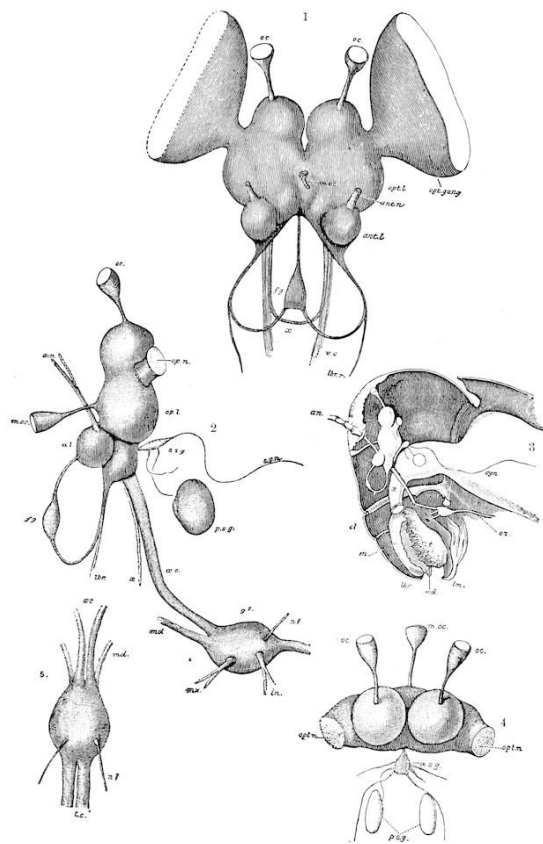


Fig. 18. Insect brain illustration 1, front view of the brain of *Melanoplus femur-rubrum*-Drawn from original dissections, by Mr. Edward Burgess, for the Second Report of the U. S. Entomological Commission. p. 291



Figure 19. Instillation view of 2 audio bone transducer systems. Photo provided by OCAD photography department.

Auditory Stimulus - Buzz

While scientific studies have been able to identify communication patterns within certain insect species, particularly social insects like ants and bees, there are not yet any readily available methods of translating the noises of insects in organic encounters. this project reflects on collisions with insects in urbans space within the sterile and stagnant site of a gallery space, in an effort to reintegrate elements of insect-human

engagement I have included an audio score that pulses between noise made by insects, man, and our machines. There's a universal human often called the earth audio resonance that the city masks, constant construction and automotive circulation drown out the noises of nature. I have a habit of looking for and listening to insects, often searching for wasp nests and finding only the hum of air conditioners and murmur of generators. I began to record these organic and inorganically derived frequencies collaging my collection into a symphony that narrates non-human communication within the urban landscape. In my thesis exhibition I have layered this audio through the space immersing my work back in that interspecies conversation between the vibrating limbs of arthropods and the machines of man. We know that excessive noise and certain pitches can shatter and disturb systems, (Rhodes-Pitts) it is in building the dual frequency that I hope to disrupt, offering a base track as structure for the chorus of organic life. As Sharifa Rhodes-Pitts writes in *The Music of the Spheres*, "humming stimulates the muscles at the back of the throat that connect the vagus nerve. The sound vibrates against the edge of oneself, against lips, cheeks, throat, cranium, heart. You hear the sound from within. The nerve sends neurotransmitters and electrical signals, lowering activity in the part of the brain that governs flight, fight, and freeze." (Rhodes-Pitts) I work with the calls of insects, groans and screams of machinery, faint echoes of industrial systems, and the noises emitted from the tools I work with while metal chasing. Playing again with the magnification of insect features to human scale the noises are amplified to a level where their auditory presence is no longer drowned out by other elements in urban space and played through the sculptures themselves using a Bone transducer. The transducer allows me to convert my bronzes into audio

systems, connecting the works to human histories of exploring the sonic potential of bronze alloys in wind instruments, bells, symbols, and other resonant structures. In layering these recordings and broadcasting them from metal bio surrealist bodies I re-integrate the sonar landscape of what is perceived as inorganic back into the context of nature.

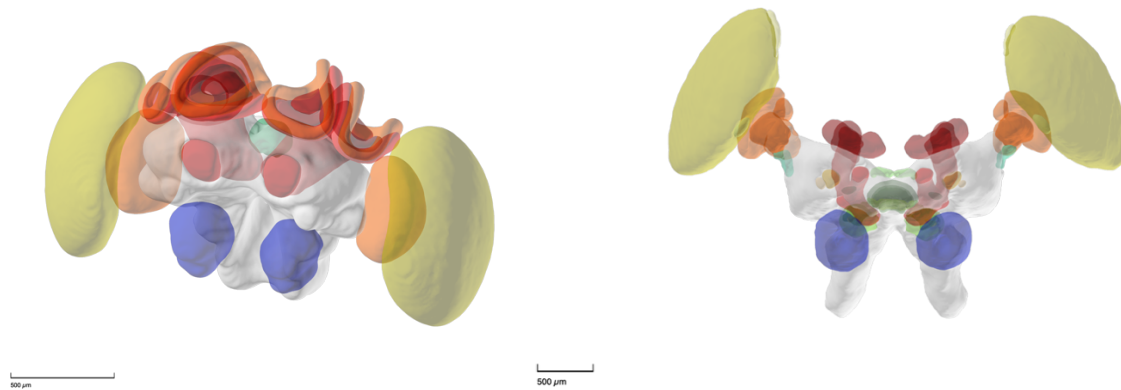


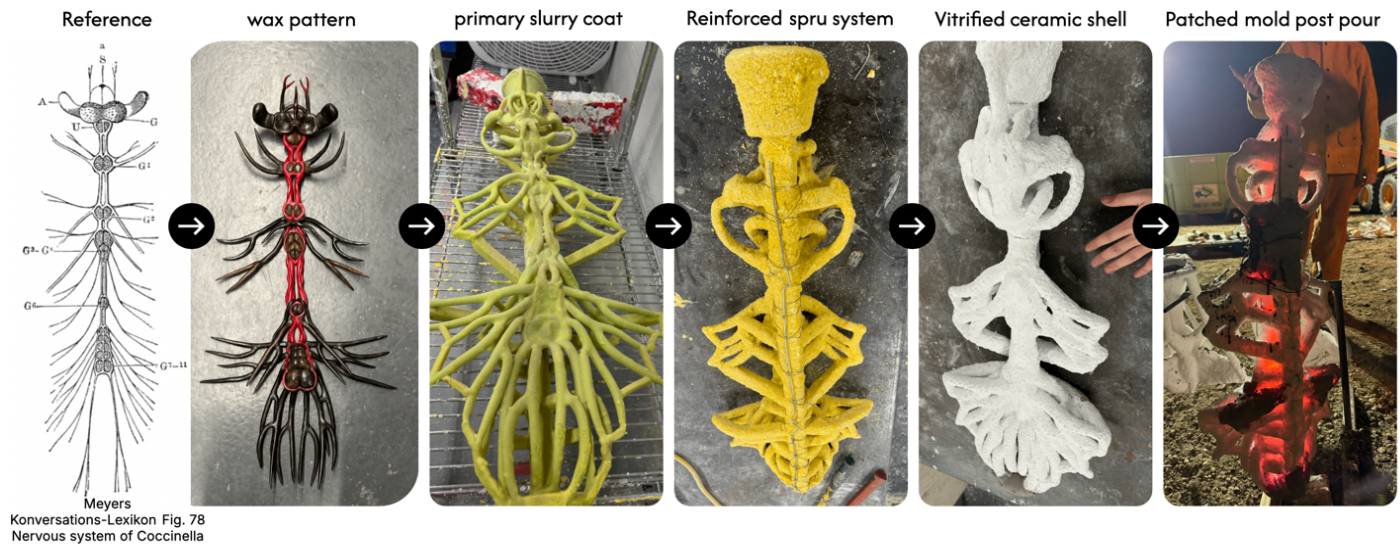
Figure 20 screenshot of orthographic view of *Apis Melifera* from insect brain database, September 2025, Creative Commons Attribution 4.0 International (CC BY 4.0) license.

Figure 21 screenshot of orthographic view of *Schistocera Gregaria* data from insect brain database, September 2025, Creative Commons Attribution 4.0 International (CC BY 4.0) license.

I have chosen to play with audio through four central bronze “instruments” installed through the exhibition each sculpted as a different brain of the insect. Within the anatomical structure of insects’ minds there are massive shifts in anatomy dependent on the function of the insect. As an example, dragonflies have large optic ganglia and small antennal lobes and ants have more developed antennal lobes and reduced optic ganglia (Gutenberg p.24). The audio systems were sculpted combining reference images from entomological textbooks and with the insect brain database, an open data repository. The insect brain database allowed me to engage with

neuroanatomical data through three-dimensional rendering. The specific data sets that I used as primary reference were and *Schistocera Gregaria* (the desert locust) and *Apis Melifera* (the honeybee).¹³ My initial research into scientific visualizations of insects was conducted exclusively within textbooks and comprised of flattened imagery. This source pushed my research into the realm of digital data visualization. The ability to sculpt from three-dimensional models shifted my sculptural approach and while the resulting works are also informed by 17-19th century illustrations the finished pieces speak to the evolution of our ability to replicate internal anatomy. The body of my work reflects an evolution of our depictions of insects within itself the Insect brains constructed with the most contemporary technology and then integrated with tectological systems themselves. The cerebral sound systems are a network of nerves and cables, the ganglia activated by audio technology embedded within the piece, see figure 19. This segment of my work is a direct response to the dynamic between insects, human bodies, and technology, the sculptural bodies cyborgs broadcasting a multilingual expression.

¹³ The journals this data was sourced from are, Three-dimensional average-shape atlas of the honeybee brain and its applications by Robert Brandt, Torsten Rohlfing, Jürgen Rybak, Sabine Kroficzik, Alexander Maye, Malte Westerhoff, Hans-Christian Hege, Randolph Menzel and Standardized atlas of the brain of the desert locust, *Schistocerca gregaria* by Angela E. Kurylas, Torsten Rohlfing, Sabine Kroficzik, Arnim Jenett & Uwe Homberg.



*Figure 22 stages of production in traditional lost wax casting January-February 2026
Photo by Author.*

Materiality

In my research I have asked how the materials that have led to the decline of insect populations can be used to challenge our entitlement to earth's resources and illustrate the ways in which our efforts to control, contain, and harvest the natural world have led to the collapse of natural systems. I operate as a transmutationist working with molten metal, anatomical slurry, and the liquefaction of colonial biases, asking how insect morphology and their journey of metamorphosis can be reconfigured into a narrative framework that offers a guide to transforming culture. I balance creation with degeneration through cast metal, wax, and chemical exposure.

On metamorphosis - "Even in the extreme metamorphosis of Diptera or Hymenoptera many of the larval organs and cells do not succumb but are reconstituted to form the adult body. There is never demolition and then reconstruction, but progressive substitution" (principles of insect physiology 42)

Like the insect, my artistic practice is rooted in reconstruction; the materials in my work are melted and reconfigured through heat, pressure, and an immense amount of hand labor. While it is common for sculptors to outsource the labor of wax chasing, gating, sandblasting, pouring, and metal finishing their creations doing these processes by hand has brought me into even closer proximity to the nature of the materials I manipulate, the wax, metal, and patina chemicals each connected back to the conceptual framework of evaluating the structure of organic bodies

Wax - Human Body Rendered Via Animal Byproduct

The approach I took in stylizing and hybridizing anatomy within this thesis project was informed by research into histories of scientific methods of communicating internal anatomical structures through sculpture. My use of wax, in the process of lost wax casting, and in the beeswax within the exhibition are connected to histories of humans using insect products in our efforts to understand more about our own bodies. Wax is used to copy anatomy because of its malleability and ability to resist decay, in ceroplastic models¹⁴, wax prolongs the appearance of the departed human body. The art of Ceroplasty¹⁵ marks, “an important moment in scientific knowledge when men realized that in medicine the hand and the eye had to constantly verify every concept formerly developed in purely abstract, deductive fashion” (Gonzalez 88). Traditional wax work was done exclusively with wax sourced from beehives, our path to understanding ourselves and our bodies was carved out of the biological material produced by insects. This process required harvesting, filtration of impurities and sometimes involved mixing

¹⁴ Also referred to as moulages, the term comes from the French term; to mold

¹⁵ Wax medical modeling used to as anatomical references

the fat of other animals. Verdigris, a pigment made by intentionally corroding copper with acetic acid, was used to achieve green while charcoal was used for black (Gonzalez 80).

Within the cuticle of the insect, *Trialeurodes* spread wax over the other body of the insect protecting against water. (Principles of insect Physiology p. 21) I have mimicked this biological function by sealing the surface of my pieces with a thin microcrystalline wax. I use wax both as a material for sculpting, as a sealant for my work, and as a way of directly evoking the vulnerability of the body.



Figure 23 Wax Wound, foundry and beeswax post metal puncture, documentation of materil experimentation. March 2026, Photo by the author.



Figure 24 Emerging-Embedded metal in wax, Photo by the author.

Figure 25 Foundry wax evacuating from Kiln during the burnout processing of ceramic shell molds Photo by Author.

Sculpting with wax allows to push and pull creatures into being, the material lends itself to unlimited re-rendering, curving with the press of my fingers, holding traces of my skin upon the surface. The installation also features fragments of my own body cast with beeswax, see figure 24. These forms act as a platform for my metal pieces which rest upon and perforate the wax. Just as I have fragmented and rearranged the insect body, I have stretched out my body and staged contact between myself and the speculative hybrid bodies within the space. Whether these structures are emerging or puncturing from the outside is unclear, the dynamic between these bodies is undefined and viewers are left to speculate of the relationship between the two markers of biological form. My process is a speculative inversion of dissection, a reassemble of the human body engaging viewers in a discussion about human and

non-human mortality. Wax has been the historical mode of facilitating these conversations through sculptural modeling and I continue these historical practices with an extra attention to origins of the material; that being the labor of insect bodies.



Figure 26. Bug shield constructed out of defense anatomy, Cast iron with bronze inclusions. *Photo provided by OCAD photography department.*

Metal - Extracted Extruded Exploited, Agency in Metamorphic Transience

One of the key research questions that directed work was; How can the materials that have led to the decline of Insect populations be used to challenge our entitlement to earth's resources and illustrate the ways in which our efforts to control, contain, and harvest the natural world have led to the collapse of natural systems? I have attempted to answer this question by recycling metal and intentionally deteriorating its surface, distancing myself from traditional sculptural practices of casting. Sculpture allows for the multiple truths to be combined, foregrounding alternate realities. Bronze statues of human figures have been commissioned throughout history as a part of securing cultural legacy; building up the boundary between the human and the non-human. It is

in this form that has historically been used to glorify humanity, that I challenge conceptions of species superiority and break down symbolic boundaries.

In my practice I engage with contemporary urban structure by reprocessing metal to remove it from its role in the systems of global capitalism. The practice of metal casting is one that transforms material, creates new agency, and restructures material lifespan but metal itself is material only accessible because of the development of industrial technology. As Caroline Merchant summarized in her Book, *The Death of Nature*, the scientific revolution presented a mechanized view of Nature, nature gradually became viewed as disorder that must be rearranged, as chaos and violence and raw power waiting to be tamed, harnessed, and therefore civilized by mankind's presence. The mining of metals and cast iron reshaped our definition of nature.

Merchant writes;

For most traditional cultures minerals and metals ripened in the uterus of the Earth Mother, mines were compared to her vagina, and metallurgy was the human hastening of birth of living metal in the artificial womb of the furnace-an abortion of the metals natural growth cycle before its time. Miners offered propitiation to the deities of the soil and subterranean world, performed ceremonial sacrifices, and observed strict cleanliness, sexual abstinence, and fasting before violating the sacredness of the living earth by sinking a mine. Smiths assumed an awesome responsibility in precipitating the metal's birth through smelting, fusing, and beating it with hammer and anvil; they were often accorded the status of shaman in tribal rituals and their tools were thought to hold special powers (Merchant, p.4).



Figure 27. Rusted break rotor with abandoned wasp nest found in scrap iron pile at Carrie Blast furnaces during the Festival of combustion October 2025. Wasps that died of natural causes from the colony outside my Toronto apartment. Photo by author.

The ability to control the structure of metal and to cast and forge metal alloys has facilitated a new level of control over ecology, more than any other metal, iron has made our modern technological age possible (Almedia, p.5). Iron is a material wielded as a tool for exerting control over other humans and over nature, it has been shaped to suit the needs of both cultivation, protection, and destruction.¹⁶ Metals are a material

¹⁶ Iron itself has indirectly contributed to the intimacy in which humans cohabitate with insects. As Michael F. Potter writes in the segment *Bed Bugs in Society*, “By the turn of the century, cast iron radiators were delivering warmth to every room in the house”, creating an ideal habitat for insects seeking warmth and shelter (Doggett pg.13). To combat this shift, humans expanded the domestic extermination market and adjusted interiors to resist insect intermingling, “heavy,

that represent the greed of humanity and the extent to which we have become comfortable in augmenting our planets' surfaces in order to extract material that serves our purpose. Harnessing the properties of metal shifted human identity and unleashed us from the limitations of our soft bodies. Unlike many insects, many of which poses hard exoskeletons, the human body is fleshy and vulnerable. The ability to make armor, weapons, and tools transformed human culture and enabled our tender bodies to become beasts of new aggression. The development of the mining industry is one of the first examples of how the human desire for expansion has shifted the culture of what is morally permissible. Mining and the consequential alterations to the earth's subterranean set tone for future exploitation of earth's surface in the form of agriculture and urban expansion.

wooden beds laden with cracks and crevices were replaced with metal frames that were less congenial to the pests and easier to inspect," these metal frames were also less likely to catch on fire after treatments with highly flammable pesticides (Doggett pg. 15).

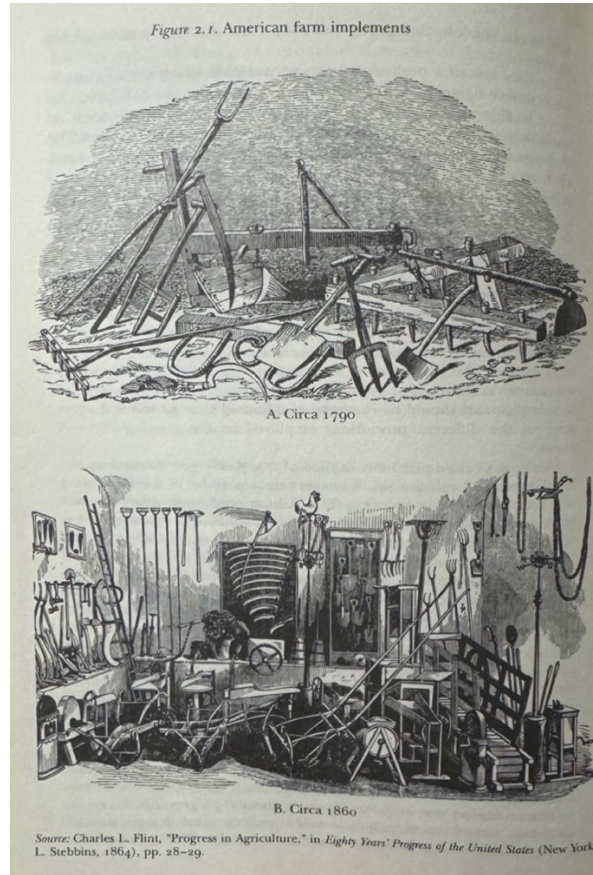


Figure 28. Agricultural Weapons. Sowing modernity, America's First Agricultural revolution Peter D. McClelland Cornell university Press 1997 p.12

Figure 28 features illustrations of preliminary tools that facilitated agricultural intensification. Over time, these technologies have expanded dramatically in scale, now requiring substantial quantities of metal and fuel to sustain the demands of the agro-economy. The aggression once confined beneath the surface has overflowed to all aspects of nature within our grasp. Forests were depleted in the processing of smelting ore. "The metallurgical industries which processed iron, lead, tin, and copper required enormous stretches of timber just to make one ton of charcoal", (Merchant, p.64). These habits set a precedent for prioritizing the demand for fuel over the stability of nature. Working with the substances and machines that have propelled humanity into a

new culture of modernity I subvert material that has aided in the destruction of natural habitats to critique human-centric use of matter. I see Iron as the backbone of capitalism; cast beams and railroads as the skeletal and circulatory systems of industrial expansion.



Figure 29. fragmented radiators and break routers laid out as charges for the furnace. Felion studios February 2026. Photo by Rob and Samantha Dutcher.

In this work I ask how the process of recycling metal machine components from industries that cause harm to the environment can open a narrative of the life cycle of matter and our overarching resistance to decay. The melting and re-solidification of metal is an act of imbuing human bias in material through form; I see this as a transformation of nature, and transformation of space. If we view the engineered machine as a prosthesis, the metal components of Industrial and agricultural machinery as seen in figure 28 are at a stage in their life cycle where materially they synchronize with the aspirations of industrialization. Restructuring this material through the process of casting, as insects restructure themselves within the chrysalis, allows for a reconfiguration of material intention. The earth's ore that has been refined and reduced

to a point of malleability is offered an alternate manner of occupying space and given recess from its enslavement in the labor of producing capital for human consumption. Due to the economic value held by metal, without my intervention this material would likely be recycled by a plant and reenter the system as a commodity. As seen in figure 29 above my artistic practice involves shattering these industrial structures and dismantling machines in order to convert material's intended function. In melting, the metal is allowed to return to the fluid state it once enjoyed beneath the earth's surface; it flows through systems again as the blood of life, conduit of nervous signals and as the flesh of my sculptural work. My practice works to make meaning out of manufactured materials and use industrial waste to critically engage with contemporary urban structure.

Chemical	Usage	Hazards	Surface shift
Lime sulfur calcium polysulfides + thiosulfate	Clogs the respiratory pores of insects & disrupts cellular functions. Has ovicidal activity and insecticidal, miticidal, and fungicidal properties	Highly corrosive to skin and eyes, toxic	blueish grey
Borax sodium borate	A digestive poison for insects that also affects the exoskeletons on contact	Irritant & acute toxicity if ingested or inhaled	red - brown
Miracle-Gro nitrogen, phosphorus, and potassium	Weaker plant growth & reliance on pesticide/ insecticides. Negative impact on overall soil health and microorganisms	Irritation, indigestion, respiratory problems	green - blue
Horticultural Vinegar acetic acid	Deters insects and can cause developmental issues, can erase insect sent trails	Irritant, noxious vapors, risk of corrosive injury	green
Citric acid	Causes dehydration and death of soft bodied insects on direct application	Gastrointestinal distress, and potential inflammatory reactions	No reaction

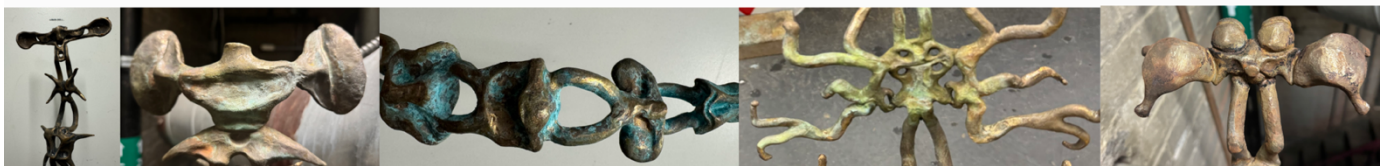


Figure 30. Pesticide Patina – chemical application as a division between nature/culture, March 2026, table made by author.

Pesticide Patina - Chemical Application as Division Between Nature/Culture

Contemporary land has been coated with an anthropogenic film of chemicals mass synthesized to keep our environments in states of servitude to human interest, controlled growth, stimulated decay, produce with films of preservation, soil saturated in pesticide. As a continuation of my investigation into how materials that have led to the decline of Insect populations can be used to challenge anthropocentric biases, I ask, how can certain chemicals active in insecticides corrode metal and in turn represent a cycle of decay and material transformation that modern society resists? I have applied a variety of commercially available pesticides to cast metal structures that have been designed as hybrid bodies bearing both human and insect features. This practice of intentional decay visualizes the corrosive properties of the chemicals that we have saturated our ecosystems with. My objective is to direct a reconsideration of the invisible substances we use to exert control over the natural world, which have the potential to destroy both human and non-human bodies.

I began my research into the impacts of pesticides by looking into the global shift in usage after the publication of *Silent Spring* as summarized in the literature review above. The damage done by DDT massively shaped societal attitudes towards pesticide use and the publication of *Silent Spring* was able to spark environmental activism and regulatory shifts that saved millions of human and nonhuman lives. While DDT remains a necessary tool in some applications, like in control of mosquito

populations that carry malaria, dengue, and zika, international regulation has prevented massive amounts of bioaccumulation within our ecosystem (Kim et al).



Figure 31. collage of chemical pesticides at Canadian tire, Toronto, June 2026, photo by author.

I initiated independent research into contemporary pesticide use through field studies, surveying products available on Canadian retail shelves as seen in the figure 31 above. While this process was conducted with the objective of developing a sense of what chemicals were accessible, this research also helped me deepen my understanding of the attitude towards insect pests. The Graphic design and language used on pesticide labels portrays the insect as aggressor, mortal enemy, contaminant, threat to health and safety, and as other. I began sorting through pesticides attempting to find a balance between chemicals I could feasibly experiment with but that still posed some level of environmental harm. After analyzing the substances available direct to

consumers, I decided to use chemicals, seen in figure 30, that could be neutralized and that did not necessitate a working in a lab environment. Although I selected chemicals with fewer handling restrictions than that of DDT or Glyphosate these substances were handled and safely disposed of following the guidelines provided in product Safety Data Sheets. All substances have been used according to health and safety guidelines with full eye, skin, and respiratory protections. While the specific substances selected pose more risk to insect health than human on direct contact this work still explores narratives of joint exposure and references the introduction of chemicals into ecological systems.



Figure 32. Miricle-Gro exposure tests March 2025, Photos by author.

Figure 33. Acetic Acid application on Cockroach nervous system. April 2026, Photos by author.

Identifying chemicals that shifted the surface finish of my work in a visually compelling manner was also a challenge. Given the agricultural industry's dependence

on mechanized planting and harvesting, pesticides are typically designed to minimize chemical interactions with metal equipment. In my research, I specifically targeted acids and chemicals that had the ability to oxidize. While the rusted patina of my iron sculptures could have been achieved with water alone, the chemicals selected massively sped up the oxidization process allowing me to expedite cycles of material decay as seen in figure 32 and 33. Through this process I have had to manage decomposition, the year I have spent refining the surface texture of my waxes is eroded within hours of chemical exposure I watch as my fingerprints etched into the metals surface are eaten away. The beginning of the patination of my work comes directly from my own body, in handling the metal, the oils from my skin and beads of sweat from lifting the work within the studio, the slightest drop of moisture and sleek iron blooms red from my touch like an oxidized bruise. Conversely, the next steps in this process necessitated limited contact due to the volatility of the chemicals I worked with. Patina application is traditionally a method of preservation; the final transformative process metal undergoes at the hands of an artist before installation (Silva, Claudia, et al). The striking blue and green patinas sought after by sculptors are often achieved with chemicals that pose serious hazards to health and require extensive PPE and safety protocols. In Intentionally applying chemicals that deteriorate the human and insect bodies I create a visual of the power these substances wield against biological systems.

The works within my thesis exhibition have endured varying exposures, surfaces augmented by degrees of contact speaking to the drastic and minute ways in which our bodies encounter these substances in daily life. This project fuses human and non-human interests, offering a narrative of joint suffering in efforts to create empathy for

species that humanity regards with a degree of collective resentment. My thesis work asks viewers to stand in a moment of mild discomfort, to relinquish a bit of control back to nature and to find beauty in imperfection, aggression, and cycles of decomposition.

Through this practice I act as a catalyst in the decay of my own creations. Iron and bronze casting both begin with a process of demolition; metal is mechanically fragmented before being charged into the furnace and returned to a liquid state. As this work is designed to shed light on the damage we have inflicted onto insects and ourselves, I found it was perinate that I evoke the hazardous potential of pesticides. In high saturation these chemicals decay the works within my thesis, aligning with the ways in which agricultural pesticides and insecticides decay organic matter within our ecosystems and our bodies. The surfaces of my work visualize a fraction of the pollutants we pour into our water systems within North America, with this process I aim to draw attention to uncomfortable realities we have grown too comfortable perpetuating. As Timothy Morton writes in, *Dark Ecology: For a Logic of Future Coexistence*;

Agrilogistics promises to eliminate fear, anxiety, and contradiction, social, physical, and ontological by establishing thin rigid boundaries between human and nonhuman worlds and by reducing existence to sheer quantity. Though toxic, it has been wildly successful because the program is deeply compelling. Agrilogistics is the smoking gun behind the smoking chimneys responsible for the Sixth Mass Extinction Event. (Morton p.43)

Insects cause discomfort and yet in our efforts to alleviate that discomfort we have normalized a subtler irritant that embeds itself within our lungs and sits within the cellular structure of our bones.

While I aim to direct viewers to agendas of preservation and ecological care, I acknowledge that all matter is impermanent and even my metal sculptures, which hold

the potential to outlast my body's material lifespan, will eventually be digested by the earth or recast into the forms of another being's vision; my intentions melted into absurdity. The chemical substances I have worked with are accessible, domestic, and familiar, yet they are connected to a multimillion-dollar industry that has massively shifted our ecosystems. In disturbing the familiar, what we think we know—we reveal what we lack the knowledge of. In ANTENNAE, The Journal of Nature in Visual Culture, ISSUE 45, "Matter Matters: Surfaces" editor Dr Giovanni Aloï dives into the materiality of art surfaces, within this publication, Raewyn Martyn writes;

In Symbio genesis, one thing finds its way into another to create a new arrangement, a new form of life. This transgression of separation and surface - skins, perhaps - allows us to think of the boundaries of surface, inside and outside, as more porous. At the cellular level of surfaces, cellular membranes are permeable through the work of biological surface-active agents (biosurfactants), (Martyn p.45).

The detritus left of the metal's surface in my work indicate the permeability of boundaries and the fragility of matter. Beyond the goal of using art to introduce scientific research lies a purely self-driven objective of fostering interspecies empathy not only to preserve our ecosystems but to heal our human detachment from nature and resituate the human body back into systems of natural growth and decay. I hand carve my sculptures meticulously and spend hours laboring, chiseling out their forms from ceramic shell, polishing and burnishing only then to initiate decomposition, see figure 22 for a visualization of the stages of labor. There is freedom in allowing my work the agency to change, to suffer as I suffer, as insects suffer; to age as I age and accompany me in decay.

The patination process materializes otherwise invisible chemical residues, reframing them as sites of aesthetic and conceptual attention. Chemicals marketed as

substances that preserve and protect human interests are made potently visible, revealing their potential to disrupt. Raewyn Martyn continues to speak about their work in a way that aligns closely with my own project stating, “Surface, like color, is culturally constructed as something that may seduce, mislead, cover, or distract from something true and unchanging” (Martyn p.45). The invisibility of pesticide applications can mask the extent of their influence on environmental systems, leading to the false perception that their impact is minimal. Chemical pesticide treatments create micro boundaries in nature between the plants and organisms; these solutions insert human intention into the seams of where one being meets another isolating networks and sealing membranes. Within the contemporary agricultural system matter is fixed to an unnatural degree, my process is an unraveling of that imposed ideal.

To ensure my artwork does not enact any actual harm onto any living bodies the substances on my sculptures are rendered inert and sealed, the chemical reaction of degradation has ceased but the narrative remains on the surface. The final seal on the work is a combination of lacquer and beeswax, both of which are produced by insects and harvested by humans. I use this material as a final point of contact with the insect, providing an additional physical example of our reliance on insects and their indispensable role in human culture. We cannot untangle ourselves from the lives of insects and our reliance on their labor. Silk, honey, lacquer, and wax are just a few tangible manifestations that indicate the prevalence of insect made material. This work reindicates the connection between biomaterial and producers, wax returned to a gesture of the insect body.

Both insect and human bodies are permeable; we absorb substances through our skin in each interaction that we have with organic and inorganic systems. In attempting to escape the feeling of vulnerability that insects evoke, which I explored earlier within this document, humanity has created a new vulnerability to substances of our own development. Our fear of insects has led to an attachment to substances that inflict more damage than most insects would be capable of over a lifetime. We build exoskeletons out of steel and weapons of bronze yet our bodies are delicate fleshy systems. Though we live and travel in Industrial mechanical shells, outside of the machine we remain permeable animals. In attempting to cut off contact with insects we have saturated our world with substances that facilitate more damage than growth, my work offers a blatant metaphor for that damage.

Outro

Installation

The Installation is designed to call into question hierarchies of animals that the field of science has imposed upon ecosystems, the insect is elevated, magnified and depicted in materials that signify power and cultural importance. My sculptural works emerge from ventilation tubes that have been gutted from within the walls of the exhibition space as seen in figure 36 and 37. These columns are a continuation of the dissective and reconstructive techniques I have taken within the production of my sculptures acting as an inversion of the site itself. The thick shelled conduits bear their corroded interiors revealing years of oxide growth. Gestural nervous systems loom over viewers, stretch over the floor, and infest the walls. Rust prints are suspended vertically, fluttering with movement from the circulation of bodies within the exhibition space, the

wings set into motion by human engagement with the work. The space hums with the auditory presence of both industrial systems and of insects, oppositional forces situated in conversation, overtaking each other in cycles. The installation has been designed to stage a tense reality while also providing moments of deeper understanding and connection, instead of offering my audience direct visuals of insects I provide them with new knowledge to inform the organic encounters they will have with insect in their daily lives.



Figure 34. Installation View from Points of Contact Exhibition. Photo by author.



Figure 35 installation Photos by OCAD Photography Department.



Figure 36. Pipe pedestals, extracted from OCAD foundry ventilation system, February 2025. Photos by author.

Figure 37. Pipe pedestals cut and fit with internal platform of rust pigmented beeswax cast from mold of my back. Deinstallation view, April 2026, Photos by author



Figure 38. Exhibition detail image of Ladybug Nervous system April 2026, photos by OCAD Photography Department.

Figure 39. Exhibition detail image of Moth Copulation. April 2026, photos by OCAD Photography Department.

Exhibition Reflection

What began as research project centered around developing new and positive ways to represent insects has transformed into an investigation of the connections between all living organisms. After completing this body of work, I am still left with a myriad of questions concerning the biological collisions of insect and human bodies. This work was both pulling me out into nature and pushing me to reach within myself, to the fleshy spindly network of circulatory systems. I am fascinated by the structures that exist within bodies and our continued efforts to understand the nature of living things by pulling them apart and looking for patterns in the assortment of flesh, bone, and chitin. Points of contact was developed as an investigation into the question; how can art reconfigure our relationships with insects and the natural world. The Exhibition does not provide a direct answer to this question but rather stands as an environment in which viewers are able to reflect on their attitude towards insects and obtain new knowledge that contributes to future relationships.

Conclusion & Outcomes

In presenting abstractions of insects, I hope to remove a degree of contemporary bias. At the point of contact is about exposure, pesticides stand in as a boundary that prevent humans from being fully exposed to insects and to nature, yet as we have been realizing through the past century, these chemical barriers of defense are often an internally destructive force. This work focuses on decay resulting from efforts of preservation. The problem lies both within our ambitions of controlling nature and in the

scale in which we have begun to operate, attempting to maintain systems of such magnitude that energy and resources are depleted at a rate no longer sustainable. The objective of this work is to force an alternate portrayal of insects, to and to destabilize anthropocentric biases.

As I sat in darkness on my patio, fussing over the innards of this thesis document. I noticed the insects drawn to the beacon of my computer screen, flocking towards the artificial glow. Chaotic movements grazing the warm body of a keyboard my fingers beat a pulse of steady type onto. Our encounters with insects create new knowledge about our bodies; they re-establish ourselves within the world and pull us away from comfortable indifference. As an artist, I respond to culture and aim to cultivate new perspectives. The works within this thesis are made for a human audience; an audience I anticipate is hesitant to embrace insects with the same fervor I hold. It is in responses to my work that there lies latent potential to create change. I ask my viewers to pause at the next point of contact they have with insects, to remember their encounter with my artwork and decide within themselves how they will respond to the insect.

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