# Chapter 4
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# Migrating South: Becoming with a Migratory Insect

Monarchs reach adulthood at *eclosion*, the escape of an adult insect from the chrysalis. Once the adult pulls itself out of the chrysalis, it has an inverted shape: a very large abdomen and tiny wrinkled wings. During this period, the wings are not yet rigid enough to allow flying, so in the wild, *eclosion* is also an inconspicuous process. A recently hatched monarch looks very bright and behaves as a crawling animal, for example, using the legs to reach a flower's nectar. Yet after some feeding and thoroughly drying their wings out, they eventually fly for the first time. In the world of science, it is believed that the wing's bright orange sends a message to predators of how toxic they are, and that this may be of help to prevent predation during those first in-between hours; in which they are large enough to be sighted by a bird but still cannot fly. Amateur accounts of monarchs that hatch in September remark that a new fall adult can feed nectar and fly towards a southern direction right away. For instance, they report watching newly hatched "fall monarchs" crossing a Great Lake, or if they are in a butterfly cage staying in the "southern pole" until they are released. This chapter mobilizes this monarch behaviour, the flight towards South, to join stories of knowledge production and views around monarchs and people that signal the racialized ethos that divides Northern and Southern North America.

In the previous chapter, I reviewed a multi-layered stratified landscape and its inscriptions to explain monarch ecosystem decline in Canada and its latest exacerbation associated with NAFTA's free trade and the concomitant regulation of human mobility. I disclosed the connections across North American geographies by an account on NAFTA and its mobilization of monarchs as a tri-national species and migrant workers demand as part of the SAWP. In this chapter, I associate distant geographies as well, but I do this attending to the travels from a North to South directions. I investigate the forms in which scientific knowledge and monarchs travel South, and

how both travels are mediated and regulated by an idea of a universal righter *reason*. Anna Tsing's ideas on colonization and its institution of the concept of universal reason are useful to connect North America's colonial and postcolonial processes with the field of scientific knowledge production. She tells us: "Only *reason* could gather up the fragments of knowledge and custom distributed around the world to achieve progress, science, and good government." (Friction 2005, Introduction, KE). Such 'gathering' of knowledges from colonized subjects or entire cultures was violent but it was also characterized by a division between folk knowledge -the one form the non-European groups- and scientific knowledge. The idea of *reason* as an attribute exclusive of colonizers' minds slips nowadays under the idea of a righter knowledge exclusive of science. In the lab, scientific knowledge production sustains the right to capture and keep captive monarchs that are trying to migrate south. It is also evident in the assumption of a rightful knowledge that dictates nature enclosures in the south for conservation purposes. As expected, these are nonlinear ramifications, but I connect them here through the trope of travelling South and a colonial gaze informing both.

The chapter starts relating the narrative of a biopic of Frederic Urquhart and his research on tracking the monarch migration with its reaction on the audience. The David Suzuki Foundation [DSF], a prominent environmental organization in Canada that organized a Toronto's screening of this documentary. The event prompted spectators' tensions related to a Global North and Global South dichotomy and the competing ideas on who has the right to claim stewardship over monarch's protection. I connect what occurred that day at the movie theatre and after with the movie producers with a colonial gaze towards the southern habitat of the monarch. A gaze present when it was tracked in 1976 that it is still active nowadays. As I explained in the introduction, monarchs' drive to fly to an "unknown" place is the main source of fascination for the scientists working with the insect. Yet, what I show here, is that this drive entails a problem for scientists concerning, first, tracking the migration and, second, forcing monarchs to survive in northern geographies beyond migration season to research with them. Thus, I address this southern migration as a geographical direction for monarchs that is for scientists experienced with uneasiness. I show how those tensions, at the audience or at the research lab, are multi-species nods rooted in colonialism and in a scientific rationale of manipulating animals in the name of curiosity or advancing understanding of monarchs. Yet, both contact zones, the clash after the alleged "discovery" of the overwintering location, and the everyday practices which confront

scientists, show how being in the human-butterfly contact zone is uncomfortable and troubles, in practical and ethical ways, the everyday of the scientists producing conservation policies. As such, in this chapter I also incorporate Diamond's (2003) elaborations on how dealing with death puts humans in a proximity zone that is uncomfortable, if not unbearable.

## Discovery Scenes: Butterflies and Nationalities

In May 2014, I attended a screening of *Flight of the Butterflies* in Toronto, first released in Mexico in 2012. The screening aimed to publicize the conservation agenda of DSF aiming to convert Toronto into the first "Homegrown Urban National Park" by providing monarchs with non-fragmented habitat at core down town. The idea was to show a Canadian-made movie about a Canadian scientist's "heroic quest" to boost enthusiasm on conserving this insect. The movie sequence runs as follows:

A boy, (young Urquhart), chases a monarch butterfly through a pathway that stretches further to the end of the land, but the monarch keeps flying, disappearing into the deep blue horizon. The boy waves hands, expressing curiosity and amusement. In the next scene we see a University of Toronto-Scarborough scientist (the adult Urquhart) sharing a similar, if more analytical, curiosity about the monarch's migratory behavior. He works in a laboratory, but occasionally conducts field research outside, in fields and meadows, as he does today. Under the warm glow of the summer sun, he and his wife show a group of friends how to tag monarchs' wings. With care, the scientist places a tiny tag with the legend "Send to Zoology Department, University of Toronto" on one of the monarch's wings. The group watches quietly. Minutes later, the party shares its goodbyes with the freed butterfly, their farewells imbued with hopes that the tag will turn up again soon in whatever mysterious destination the butterfly chooses.

The following movie scenes show us a young couple (in real life these are Catalina Aguado and Ken Brugger, Urquhart's research associates hired in Mexico) departing from Mexico City. They ride up to the countryside on their old-fashioned motorcycle. They ascend a mountain range, facing harsh weather and the occasional hostile treatment they receive as unusual foreigners. Their tiredness and frustration are palpable. They stop to rest in a town's churchyard; it is Day of the Dead and the graves are clothed with *cempazuchil* orange flowers and green palm garlands. A foggy background and Oyamel trees ground the scene, dampening sound and contributing to the

sense of rurality. Catalina, amused by the folklore, sees a monarch butterfly fly over the cemetery. The couple enthusiastically cross the decorated graveyard and follow the flight of the butterfly towards Cerro Pelón. The couple spends hours riding up on a donkey's back, guided by a "local" who leads the couple along a narrow path. When the forest gets thicker and the air misty the couple get off the donkey and walk on, marveling at what appears to be an orange forest. Millions of monarch butterflies are gathering! It is the forest colony, full of monarchs, which Frederic Urquhart has spent years searching for. The last scene shows us the old Urquhart couple receiving a phone call. "They found them," Norah, the wife, whispers to Frederick, "They have located the colony!"

The boy chasing the monarch through the Scarborough prairie, who would grow up to be Frederic Urquhart is, alongside Norah, Kent, and Catalina, a character in *Flight of the Butterflies*, a 3D documentary inspired by the "real facts" around the discovery of the migration route of the monarch butterfly between Canada and Mexico. It is a biopic focused on Urquhart. From 1940 to 1975, the Urquharts' strove to find the southern pole of the Eastern monarch migration, whose discovery was a revolution in the study of the species. He became a sort of "founding father" of the monarch path. This explains why the mapping of the migratory route is deemed the twentieth century's most important entomological discovery. (For a recreation of the discovery story and the tagging practice see Flight of the Butterflies website.)

*Flight of the Butterflies* appears "catchier" than other nature documentaries because it joins the quests of humans' curiosity with monarch butterflies' drive to migrate to a very distant forest; both species are presented as if on "missions" accomplished through hard effort and determination. At the time of the screening I was already familiar with Urquhart's origin story, since it appeared repeatedly in the media and in monarch biology and conservation books. It summarizes how a male Canadian scientist, aided by his "dedicated" wife and a "delightful" young Mexican women who is the key to overcome Urquhart's language and cultural barriers to conduct research in Mexico, completed a forty-year search for the butterflies' colonies. Only through my fieldwork interviews with Urquhart's collaborators did I learn of the much more central role that his wife, Norah, had in the creation of the concept of Research Associates to attract more people into their project. This arguably made it one of the most successful citizen-science projects of the century.

I attended the screening, curious as to how an urban crowd would receive both projects—the film and Suzuki's monarch protection initiative alike. The clearest convergence was perhaps

around milkweed seeds. DSF's Homegrown project encourages planting native plants such as milkweed to provide a non-fragmented habitat for animals on the move. The movie producers, staff, and I have crossed paths in the monarch's flyway corridor more than once since its creation. By the time I finally saw it in Canada, I had already met the movie staff across the migration corridor. I saw the team promoting the film before it release at a Monarch Conservation International meeting in Minnesota. Equally, the day *El Vuelo de la Monarca* (its title in Spanish) was first screened it was a premiere hosted by Mexico's president and other dignitaries as honored guests in the city of Toluca, the nearest cosmopolitan core to the reserve. Coincidentally, I was at the Monarch Reserve that day. Yet, as many of the reserve's *ejidatarios* leaders, I failed in getting an invitation to attending the screening. After all, it was the President of the country himself who was making the remarks on the importance of the movie, so perhaps politically "loud" reserve's *ejidatarios* or an anthropologist conducting research were an awkward public for the event.

In Toronto, the screening invitation was more unrestricted so to speak, it was a DSF campaign which sold the movie tickets in advance with the promise of getting a "baby milkweed for adoption." The crowd seemed happily moved by the movie. As it is told, the story is particularly compelling for an urban public proud of national and hometown heroes such as Suzuki and Urquhart presented as leading environmentalists. The movie appeared to me, a Mexican graduate student living at Toronto at the time, but following monarchs across its three habitats, as a reification of Canada's ecologically minded and gendered liberalism as one that is politically active but not too radical or concrete in its policies. I interpreted the movie's associations between the practice of discovering for one, and conservation for the other, as reifications of frontiersmenship and science.

Upon the movie's completion, the producers greeted the public and a pleasant Q&A convened. I was focused on writing in my fieldwork diary that people were noticeably moved: tears, applause, and parents enthusiastically supporting their kids in asking how to "help" monarchs permeated the beginning of the Q&A session. A speaker suddenly grabbed the microphone.

-"I want to ask," an irritated man interpolated, "Why you don't thank Mexicans in your movie, or here?"

-"Pardon me?" asked a surprised Lindsey McLaren, the film producer, and scriptwriter.

-“Yes,” the young man on the audience replied in a Mexican accent, with a firm, if also shaking tone.

- “You started thanking the scientists and all the Canadian organizations that made this movie, but you did not mention the role of Mexicans in the film, and in the movie, you depict Mexicans as mere donkey riders.”

-“Oh, we apologize for that. Mexicans did a lot,” Jeff McLaren, Lindsey's husband, and a producer as well, replied. “Mexicans had a lot of participation. We usually thank them for other presentations. We just got too cheerful about this public and forgot it. Our apologies.”

-“I am not the one to take an apology,” the man responded, “I think you should also say how poor Mexicans are down there. How did you ‘use’ people to make the movie? You guys depicted us here only as helpers in the backstage. You give all the credit to the Canadian scientists, and you forgot to thank the people that actually made this movie possible.”

The producers apologized again and politely asked him to let others, especially younger audience members, talk. The man did not acknowledge the apologies. He walked out of the conversation to the palpable perplexity of the crowd.

Both scenes, the movie plot and the contretemps triggered by the script and the Q&A greetings section, elucidate how a migrant species surfaces nationalistic claims embedded in long-term inequalities between the Global North and the Global South, and how both scenes are permeated by an ethos that pits science and conservation in this case against Mexico and the offended Mexican. As I will explore further in the next section, the exchange reflects the tense dynamics around the politics of the rightest conservation knowledge, and the role the butterfly plays in connecting and disconnecting people across the migratory corridor.

I was unable to track down the man who spoke so vehemently that morning, but on my way to approach the producers, I caught movie staff laughing about the incident and dismissing it: “He just wants to point out he is Mexican.” Perhaps noticing my Mexican accent, the producers, with more caution, apologized to me for the “uncomfortable discussion.” I asked if we might schedule a meeting and they agreed to meet a few days later at the Toronto film studio where *Bugs! A Rainforest Adventure* (2003) and *Flight of the Butterflies* (2012) were created.

I first met Jeff. He is a good Spanish speaker, although we talked in English. He is a gregarious conversationalist, with a gift for public relations, one may say. He began the meeting detailing how much the filmmakers relied on Mexican funding to complete the movie. After some

months visiting Mexico he befriended the country's most prominent corporate personalities, including the heads of international corporations based in Mexico, such as Femsa (Coca-cola or coke) and Bimbo, and also indirectly Carlos Slim, an entrepreneur who ranks among the "richest" in the world owning telecommunication services but who also created a private fund to protect monarchs. Jeff and Lindsey worked closely with the director of Fondo Mexicano para la Proteccion de la Naturaleza, Slim's NGO that raises funds for the WWF and the program that grants residents of the reserve monetary "compensations" in exchange for conserving the monarch forest. Jeff listed each of those agencies and each of those "big" family names as the Servidje family which allegedly a "true Spaniard family" is yet making profits in Mexico since colonial times. The listing gave me a sense of the elite "leagues" Jeff was able to bring into the movie project. Moreover, Jeff stressed how these corporate "well named" people not only provided money for the making of the 3D film, but also offered him the political connections to operate alongside the diverse agencies and groups involved in conserving the Mexican overwinter habitat of the monarch. These connections included Felipe Calderon, Mexico's ruling president at the time, whose home state is Michoacán and who became friend of Jeff. This acquaintance, in part, explains why Calderon himself made the remarks in the Mexican movie premiere. While conducting fieldwork at the reserve, I heard that Calderon himself pushed for 'relaxing' the conservation restrictions for the movie crew so they could take better shoots inside the forest with their complex 3D equipment.

That same day at the studio, Lindsay joined the conversation a bit later and, following the greetings, she began describing how she wrote the film's script knowing it would be a total success because: "people like butterflies but they also like drama." Both Jeff and Lindsay detailed how challenging it was to bring together those two poles, the human and the animal, into a 3D documentary. Their conversations indexed exoticism related to both the Mexican worker and the 'Mexican' monarch-related traditions. I recall how Lindsey told me how "A lot of Mexicans were very happy" [about the recreation of a Day of the Dead scene where Katalina 'chases' one monarch flying to Cerro Pelón]. Her comment made me think which Mexicans would be happy after seeing such scene? To me, the scene opposed folk knowledge -in this case the Day of the Dead believe in the region that monarchs are the soul of their ancestors- to scientific knowledge -the hard pursuit of knowledge that pays back with a landmark advancement of science- and although this is exactly how, at large, conservation science has approached monarch protection that does not mean that 'Mexicans' at large will be content about that opposition or the scene itself. The man who

compelled them at the audience was expressing discontent about that opposition and floklorization of 'Mexicans.' It took Lindsey some minutes to add a remark on Mexican workers:

-"…talk about hard working! OMG, the Mexicans! These workers were spectacular! (Lindsay McLaren, Toronto, 2014). Much of our time together was used to talk about Mexico's "great contribution" to *Flight of the Butterflies*. I walked out of the film studio with another monarch related gift. A designers', and as such high priced, "Pineda Covalin" monarch-themed female purse made of precious silk. "We have tons," Lindsey claimed, "it's yours."

### *Science Scenes: The Contingencies of Human-Insect Encounters*

During the decades (1940-1975) when the Urquharts strove to find the southern pole of the Eastern monarch population's migratory route, they received considerable help from an extended network of research assistants including a Mexican-American couple Ken Brugger and Katalina Aguado. In a now-famous issue of *National Geographic* (consult the Ags, 1976 edition here), Dr. Urquhart recounts the achievement as follows:

> In our search for the overwintering place, years passed, years of frustration. […] Ken Brugger proved to be the key that finally *unlocked the mystery.* In a letter written in April 1974, Ken reported seeing many monarch butterflies in the Sierra Madre flying at random as if dispersing from a congregating site. Ken Brugger doubled his field capability by marrying a bright and delightful Mexican, Kathy. Swiftly came the dramatic conclusion. "We have found them—millions of monarchs—in evergreens beside a mountain clearing (*National Geographic*, 1976, Emphasis added).

Urquhart's account implies the "discovery" was unknown to Mexican residents in the area, as if what is a mystery to North American scientists must also be a mystery to the world. The discovery story is still repeatedly told in formal and informal talks given within monarch conservation circles. *Flight of the Butterflies* is currently screened worldwide and promoted as an educational movie, and, as already described, challenges to that narrative have been rare.

Only recently I have heard monarch conservationists clarify the Urquharts' achievement as a "mapping" of the migratory route, rather than a "discovery" of "colonies" of butterflies with which residents of the Oyamel Fir Forest have been in contact for hundreds of years. Indeed, the fact that in the movie a forest resident guided the couple to the hill (that hill is known as the *monte*

*alto,* see Chapter Two for a discussion on the monte alto concept) reveals that communities of the forest knew that the colonies were there. They just did not live permanently in that Monte. However, the narrative embodies such a hegemonic trust that even inside the overwinter area in Mexico, local tourist guides replicate the "discovery" story with little or no acknowledgment of the pre-National Geographic publication perceptions of local residents about the butterfly. Homero Aridjis is a famous Mexican writer and long-term advocate of monarchs who grew up near the overwinter area and who keeps strong ties with the political and scientific elite of the three countries.[1] Aridjis equates the discovery narrative to the colonial "discovery" of America. In a book called "*The Butterfly's Mountain*" in which he compiles essays and poems of his author regarding the Oyamel Fir Region (also his birthplace) Aridjis expresses:

> Just as the discovery of America is a misnomer — because America had been discovered ever since it was inhabited by human beings, and what Columbus so momentously initiated was a meeting of two worlds — so we can say that what occurred in January 1975 was a mutual enlightenment for people at both ends of the fabulous 3,000-mile-long migration of the monarch butterfly (Aridjis 2015).

I agree partially with Aridjis. His analogy fits. As Amerindians did not know of the existence of Europeans and vice versa, residents of the forest did not know from where those butterflies arrived. Canadians and Americans did not know the destination to which those monarchs departed. However, history shows that Aridjis is too even-handed in characterizing the Spaniard-Amerindian encounter as a simple meeting of two worlds. The colonial encounter was violent in the extreme. As I elaborated in Chapter Two, the conquistadores founded a colonial regime based on racial differentiation and resource extraction that tore the forest culture in unprecedented ways. The imposed acculturation produced the post-colonial mestizo identity which worked as the foundation of the Mexican modern state and expanded the limits of extraction to the monarch forest. In this regard, yes, Aridjis is right in equating the "discovery" myths, but he fails to acknowledge the colonial gaze embedded in both. I contend that in a mode similar to the Conquista, local forms of living–thinking with the forest were dismissed in favor of a self-substantiating ethos of discovering and, later, protecting the butterfly.

[1] Ardjis co-funded and led the recognized environmental group "*Grupo de los 100*" The group joins celebrities, intellectuals, and artists from North America in defense of environmental causes.

The discovery myth published in National Geographic offered new covers for modes of intervention. When Urquhart announced the migration route to the world, national environmentalists and international conservation agencies, mainly Conservation International and the emergent WWF, put pressure upon the Mexican state to protect the butterfly habitat. Urquhart's promotion in the media as "the most important entomological discovery of the century," although indirectly, had negative effects on the monarch population itself because people resisted the institution of the reserve. The conservation measures imposed upon the forest, and its people, reinforced ongoing contradictions between the longstanding extraction and dispossession problematic. The new focus on "monarchs," shifted the ongoing forest culture to the new terrains of the right knowledge production to bring protection. In this respect, one could argue that the anger of the audience member at the *Flight of the Butterflies* screening appears deeply embedded in a nonlinear process that exalts western forms of knowing and its attached incursion on nature–cultures. He may not have been cognizant of the conservation model imposed upon the "discovery," or of the terrible outcomes such shifts brought upon the butterflies and the humans inhabiting there, but I think his intervention, and the consequent meeting with the film producers, speak to the global North and South dichotomy claiming both material and epistemological ownership over the butterfly forest. The movie script and the interview excerpts show recurrent associations of a generic "Mexican" that appears in the "backstage." The notion of the South as a locus of the underdeveloped, lacking the proper knowledge and suitable management to protect the butterfly contrasts with a notion of the North as a site where conservation matters and where resolution, curiosity, and a right to discover meet. The fact that the producers kindly apologized to me for the incident with another "Mexican" reflects the ongoing reification of nationalities and class privilege at play in the conservation corridor as people to some extent share the insect, but not the "stage," or the history. These are not causal entanglements; the generic "North" and "South" are postcolonial constructs ascribed to the definition of national boundaries in the independence years of the three Nations and they still play a role in knowledge production and conservation policies of a species that migrates across the three and long-lasting contested borders.

In the next section I connect the first outcomes of the "discovery stage" with the South's other roles. The monarch butterfly flies south because it cannot survive in cold weather. By virtue of its life history and its migratory adaptation more specifically, the monarch complicates the very research plans it inspires North of Mexico's border.

*We do not become animal without a fascination for the pack, for the multiplicity.*

– Gilles Deleuze and Felix Guattari (*A Thousand Plateaus,* 1987)

During my graduate school years, I took a course on monarch conservation and citizen-science at the Monarch Lab. The lab is located on the Midwest prairies, near the northern border of the United States and Canada and deep inside Monsanto's Corn Belt. Despite the intense monoculture agribusiness, more monarchs breed and reproduce in the Corn Belt than in any other part of the U.S.–Canada corridor. This special location makes the Twin Cities an ideal place to study monarchs. I attended the workshop and conducted fieldwork with the Monarch Lab team during summer seasons for two consecutive years. I was interested in understanding the connection between United States' scientists who specialize in monarchs and the biodiversity conservation practices taking place in Mexico. My research with the Monarch Lab team convinced me that a North–South relation was at play, in terms of both its symbolism and its materiality, and in the way each affects the scientists' relationship with their study animal.

Professor Klara Betthauser, a leading scientist in monarch conservation and the founder and Director of the Lab, is a Midwesterner who received a doctorate focusing on the reproductive ecology of monarchs. Klara Betthauser developed an interest in conservation biology after visiting the overwinter habitat of the butterflies in Mexico. Her first encounter with the idea of conserving an insect originated with the image of millions of insects hibernating in Mexico. The impression steered Dr. Betthauser to a lifetime's work on the monarchs. In her recollections of those days she asked me:

-"Have you been to the colonies?"

-Yes, I confirm.

- "…so it was Chincua." (This is in the early nineties.) "There are some buildings near the colonies. We stayed in those buildings—that are not very nice. [We laugh.] There was no toilet, and it was just a funny trip! I walked in and I was just crying. I burst into tears. I was so happy to see them… It was a peak year, lots and lots of them."

The vision moved Dr. Betthauser to the point of tears at the moment and later, together with other intellectual and professional imperatives, it motivated a life to researching the insect. The sight of millions of butterflies packed to the point of being indistinguishable as individual organisms, a single constellation, was so attractive that Klara became–with *lots and lots* of clustering butterflies. Becoming, in this view, is again transformative. For this scientist, the contact moment with millions of butterflies entailed a long-lasting performativity. Along with the movie producers, Dr Betthauser's narration reveals assemblages that may work in rhizomatic ways but are nonetheless composed by domination and inequality. Yet this contact zone proves difficult because the meeting and "grappling with each other" occurs among contexts of asymmetry, physical and symbolic relations of power that can be both of longer-data such as colonialism and its aftermaths (Pratts 1999).

Dr. Betthauser explained to me how she designed a first hypothesis on how having all the monarchs from as far afield as the Midwest and the Eastern coast of Canada and the U.S. gathered in a *few* hectares in Mexico meant any threat in the latter could be fatal to the species. Thus, she became active in conserving the migration in Mexico and proposed along with other scientists the conservation measures. Thus, Dr. Betthauser was a key actor at the first tri-lateral post-NAFTA meeting in which experts from the three countries gathered in Morelia, Mexico (1987) and devised the first conservation plan for the "colonies" (see Chapter Five). Lincoln Brower, the renowned Florida-based researcher who was only months behind Urquhart in tracking the migration route back in the 70s, was also there. Don Davis, Urquhart's amateur helper for many years, and Jean Laurent, an Ottawa National Museum worker—both Canadian monarch experts who shared with me memories on this event, also attended. Reflecting back to that first meeting, Klara Betthauser confesses that for the US's scientists (and for the Canadians as well) the meeting was a big learning curve.

In parallel to the meetings she created Monarch Lab, a research center dedicated exclusively to investigating the monarch's lifecycle and threats to it across the corridor. Dozens of students since have conducted doctoral research under Betthauser's supervision and today she is a among the leading voices in the tri-national conservation efforts to protect monarchs. I identify Dr. Betthauser's narratives of the encounters with monarchs and people in the Global South as entrenched in an ethos of the colonized South. Where monarchs congregate and are seen by scientiests as in need of protection from local humans and where local groups are fighting for the

recognition of the right to relate with the land in their own terms, and this, as I have discussed in Chapter Two includes a form of living in reciprocity with land that does not grant a priority to monarchs due to their migratory behavior or charismatic status. This mixing of "Souths" with different understanding of the land and the butterfly occurs within an imperative that these groups do not possess *right reason* as scientists do. I am not implying here that scientists like Klara Betthauser and the Lab's students are unaware of this tension or see themselves simply as superior to reserve's inhabitants. They are aware of the complexities of implementing conservation policies but they are also bounded to a scientific model to protect monarchs. Scientific and mainstream conservation, and its ontological tools, have valued wild monarchs above the other species and ontologies embedded in the forest. In the Lab, however, this does not occur through a frontal dismissal of local's knowledge, but a prioritization of the butterfly in need of protection.

During my year of fieldwork with different scientists, I repeatedly recorded references similar to those of Dr. Betthauser about the overwintering sites as "miraculous," "breath-taking" "fascinating" and overall worthy of preservation. It is an overarching interest that joins a curiosity for the mechanics and bio-chemistry displayed at the migration phenomena, and the enigmatic visuals of millions of wild monarchs in hibernation. Scientists often stretch that fascination for the wild "packed" monarch to justify their practices with the captive monarch. That fascination speaks to a merging of the anthropomorphic–domesticated animal with the symbolic religious totem type that grants identity to thus lab, and the *affect* animal which is the one that remains "nonhuman." (Deleuze 1981 in French [2005]) English translation]. My work at the lab reveals these tensions about the wild, the captive and the symbolic/totem monarch as one that entails fascination precisely because it represents a permeable boundary zone merged in one insect, sometimes in one specimen. For Deleuze and Guattari bridging that boundary is rhizomatic thinking, but not enough to overcome domination. The next section describes these tensions.

### *Inside the Lab*

The third summer I visited Minnesota in 2014, I got a space to work in the Monarch Lab's office. It's a room decorated with a discrete monarch theme that four staff members share with three graduate students. In the summer, the staff spends more time out of the office making presentations on farms, at fairs, at educational workshops, in butterfly gardens, and at festivals. The laboratories themselves are across the office.

Used to seeing university life exclusively linked to classrooms and libraries, the Laboratory, indeed the entirety of the Saint Paul campus itself, seemed to me like an inter-species zone mediated by labour. Working students making nonhumans of all sorts to work as well. This is because the University of Minnesota's St. Paul campus is focused solely on food production, agriculture, and natural resource sciences. Knowledge here is produced at test fields, recreated habitats, and large lab facilities (figure 2).

*Figure 1. Asclepias cultivated in the Monarch Lab's Greenhouse on the University of Minnesota's St. Paul Campus.* Next to the Monarch laboratory, during the summer, the team rears butterflies and cultivates tropical milkweed.[1] Photo by the author, 2014.

I would routinely observe undergraduates planting, feeding, cleaning, and testing their research subjects in various facilities across the campus. In simple words, animals and plants at St Paul are the center of knowledge production. The Lab regularly cultivates greenhouse milkweed because it has a large monarch caterpillar population to feed. In the greenhouse, the team can control for the presence of pesticides and herbicides on the plants. Figure 1 shows the tropical milkweed the Lab grows, which is the most popular milkweed cultivated in the United States.

Science with monarchs at the Lab routinely grapples with the mundane aspects of keeping monarchs alive for research during and beyond migration season (late summer). The awe of clustering butterflies in Mexico which motivated the lab's creation in part, seems far away from the lab's workday practices to succeed in keeping monarchs alive. Inside the lab, monarchs are working insects in a constant tension between the scientists' awe for them and detachment from that deep connection with the Oyamel Fir Forest as expressed in their annual migration. The ethnographic scenes I present here reveal a type of becoming animal that considers the own insect agencies, such as migrating south, qualities that show refusal to assimilate into scientific arrangements.

In United States a monarch reared in a lab means a captive insect for research purposes. Monarchs can be killed and tested with no restrictions. Scientists, including the lab's interlocutors, sometimes said that such testing is a small "sacrifice" for the good of the species and the sake of producing knowledge. To test monarchs, researchers need a continual supply of them. Monarchs in the wild migrate in late September. Prolonging the lifespan post-migration season is possible if monarchs are held captive and artificially reproduced with greenhouse milkweed, artificial light, and warm temperatures. Prolonged captivity, however, makes monarchs weaker and if released they have a greater probability of spreading disease and are less fit for migration (Steffy 2015).[2] Nonetheless the lab has conducted this practice for the last twenty years but not without troubles of different sort. The following vignette discloses how feeding a captive monarch occurs.

-"You want to feed some monarchs?" Lukas asked.

Lukas is in his late twenties. He was raised on a Minnesota farm. Working with plants and animals has continuously been a part of Lukas's life. As an undergrad, he collaborated on a project on parasites. The complexity and sophistication of the organism he studied "opened his eyes to parasites." Lukas' ongoing research at the Lab is about parasites that attack monarchs in the chrysalis and larvae phase. To be able to conduct trials, Lukas rears at least four species: monarchs, milkweed, the parasitic wasp, and cabbage white caterpillars, *Pieris rapae* (to have a control species) with which to test the parasitic species performance. When it comes to monarchs, Lukas rears them controlling the grades of toxicity (depending on the type of milkweed they eat) and then

[2] Steffy's (2015, 1-11) study points out that "reared monarchs were significantly smaller and less likely to be recovered in the Mexican overwintering grounds than their wild counterparts." A similar outcome has been registered for bees, the Xerces Society issued a position towards rearing monarchs arguing that bees have shown a similar pattern (Xerces Society, 2015,1).

he analyses the wasp's tolerance to the milkweed toxins—cardenolides present in the monarch chrysalis. He documents the effects and responses to this toxicity to unveil inter-species coevolution. In other words: he looks at how the wasp adapts to different toxicity levels to survive.

To understand the process of parasitization of the wasp to the chrysalis, Lukas rears monarchs that as healthy pupas are placed in a transparent plastic container with one or two wasps, and he documents the outcome of that encounter with photographs and videos to be analyzed later. To have chrysalis he needs monarchs that he keeps in an incubator.

I replied "Yes" to his invitation on feeding a captive monarch.

He took out a female adult from the incubator set at 10 degrees Celsius, which is a cold temperature that induces semi-hibernation. The butterfly was inside a paper envelope and thus, motionless. With two of his fingers, Lukas gently pressed the butterfly's wings and took the female out of the envelope: using enough pressure to block its movement but not enough to damage the wings. Still holding the butterfly, Lukas reached for some lead sinker weights used in fishing, about 2 cm in length and 1 cm in width. He noticed my surprise and acknowledged that the technique "isn't the best-looking thing" but that it works well for feeding insects quickly. He laid down the butterfly and quickly put the weight atop its wings so it couldn't fly off. The butterfly was still in a dormant state.

The butterfly's proboscis was rolled over. Lukas gave me a pair of long thin pincers that I used to stretch the clumsy proboscis into a mix of honey and water Lukas had prepared. The monarch started feeding, slowly at first. But the more sugar ingested, the more awoke. Following Lukas' instructions, I fed the monarch briefly. This was not the moment of bringing this female monarch fully "back" to a normal blood temperature that would stop the dormant state. I removed the honey and Lukas placed the butterfly back inside its envelope and in the incubator.

The butterflies that Lukas rears remain in the incubator until he needs more monarch pupas for testing the wasp—chrysalis interaction. In one of the videos he records and uploads to his Youtube channel, we see how two wasps attack a monarch several times in the vulnerable moment of chrysalis formation. The transforming caterpillar has a body soft enough to be pierced several times by the wasps. This chrysalis experience is very different from the chrysalis of Chapter Three. In Point Pelee, the glass cage kept the chrysalis isolated from other species and thus we saw the monarch pupating minding its own business. But Lukas forces an inter-species interaction, also in a translucent container, so he and we can watch how the chrysalis is attacked by the wasp. The

chrysalis is in a vulnerable position because it is in the process of liquefying some organs to form new organs. Shortly after, however, when the chrysalis reaches formation, the caterpillar is perfectly sealed—safeguarding the wasp's eggs until the new generation of wasps emerges from the dead chrysalis.

At the time, and inside the lab, I wrote on my fieldwork notes that it took me several minutes to overcome the view and my participation in feeding the female butterfly unable to move due to the sinker weights. I however, could not grasp the vulnerability of the chrysalis that Lukas uses for testing until I saw it in his Youtube channel. Without cameras seeing the parasitization event is not that accessible: it may occur at night and during a relatively short (6-8 hours) timespan when the chrysalis is soft. I explain (now) my uneven reaction to the real chrysalis and the filmed chrysalis, as being an ethnographer in the lab, immersed in the "structures of not seeing" (Lear 2008), something that changed through being a more distant spectator watching Lukas's video. This is perhaps related to the contrast between the everyday work of the lab, which is profoundly mediated through technology and the scientific method dividing trials by steps and keeping species in apparent isolation, or as in this case forcing inter-species contact. Nonetheless, once Lukas edits the videos, accelerating its speed to match the Vangelis-style background music, the research process becomes more evident.

The scene of a struggling chrysalis being attacked over and over contrasts with my presumptions about how the lab works to protect the species. Lukas's video accentuates this dual nature of the lab. Lear (2008, 93) describes how in disclosing the indiscernibility of human and non-human and that to avoid such *difficulty* we rely on "motivated structures of not-seeing." I contend that the lab is one of those structures, a structure that motivates *not* seeing and simultaneously allows seeing too much. Haraway (2008), tells us that this paradox is not unusual, but part of a larger paradigm of sacrifice that permeates the logic of the zoo and of scientific research more generally. Yet, although they showed excitement about their research, younger scientists in the lab shared uneasiness with this logic as well. This is why I do not want to simplify the trials as the embodiment of interventionist science. I want to analyze them as a contact zone of becoming animal by highlighting how the monarch and the paradox troubles the researcher. Similar to *Flight of the Butterflies,* once pieced together, as Stanley Cavell suggests, a YouTube video of a captive monarch became a plot with its own devices exceeding Lukas 'own aims (Cavell 2008).

*Affect Monarchs*

After decades of success doing this type of brief "feeding and back to the incubator," the capacity to keep monarchs alive in the Lab degraded gradually. In 2009 they faced less success in make monarchs live year-round and in 2012 most monarchs inside the Lab died. The Lab had no clear answers at the time of what precisely attacked their monarch population. Members surmised a virus may have debilitated the population and a bacterial infection killed off the rest. This interrupted the flow of monarchs to have eggs and offspring of that egg. With no wild monarchs locally available from which to collect new eggs and start a fresh monarch "batch," the experimental program ground to a halt that year. In the next year the artificial life-expansion process has become a more complicated practice for Lukas, and another Monarch Lab member, Nancy Trent.

Nancy Trent, another graduate student at the lab, became interested in a post-graduate degree in conservation biology at Yellow Stone National Park. Nancy said she saw so much beauty at those sites that she decided shifting her math minor to biology: "to be out in nature." In that same conversation, she shared how "magical" it was to see monarchs in their overwinter area in Mexico. She described the experience as being inside a "*monarch snow globe*" (emphasis added). The image of millions of monarchs gathered in a single site was so powerful to Nancy that remembers being moved to the point of amusement.

-"How much can we do as a species?" She asked me.

-"If this butterfly, that weights as much as a paper clip, can come all the way from Minnesota to Mexico, how much can we do as humans then? The colonies are why I am trying to save monarchs."

As with Klara Betthauser, the experience pushed Nancy to work for the butterfly's conservation more actively. But the research with monarchs was substantially affected by the difficulty to keep that year's monarch "crop" healthy. Nancy modified the research plan, conducting more tests in the summer to avoid the precarious prospect of keeping insects alive in the winter. Back in 2011, when Nancy had enough healthy monarchs, she tested the insect's internal freezing temperature. She recorded at what temperature *Danaus plexippus* die, or how long the monarch can stand the cold before dying. Nancy focused her research on a Texas-average low temperature of 5˚C, expecting to find that monarchs cannot handle cold weather. To her

surprise, she found monarchs could indeed survive a Texas winter and colder (personal communication; publication on her findings is forthcoming).

In 2012 Nancy could not continue her research program as planned because no insects survived the lab.

-"[It] has just been horrible," she described the collapse, -"We had a really bad monarch disease. When your control group has a 60% mortality, it is really hard to keep control and to know why they died. Is it the cold? Or is it the disease?" (Nancy Trent, Monarch Lab St. Paul MN, July 2014). The team inferred it was not *Ophryocystis elektroscirrha,* O.E., a known parasite that attacks monarchs widely. Other undergraduate students experienced the same problem over the next two years. Since the team shared the lab's facilities, any infection monarchs developed in one trial could easily pass to other trials. No one knows which trial started the infection, but Nancy's doctoral plans were derailed, to the point where she switched to researching existing data around temperature resistance in the wild.[3]

Captivity is the issue here. Disease in the wild will not usually be passed through monarch populations at such a great rate because monarchs rarely congregate in U.S. and Canadian habitats. Milkweed perishes in winter, killing many a pathogen and pest that causes disease with it. Captivity makes an excellent environment for some viruses, while weakened monarchs are a good target for bacteria. Lab work with monarchs created the circumstances to add an unexpected guest to the "pack." In laboratories monarchs may spend their entire lives in captivity, even over the migration season.[4] The high rate of mortality triggered by this unexpected guests, viruses and bacteria, made the Lab's director rethink and re-adjust the practice of rearing year-round to rearing only until late October. This may permit the Lab to avoid releasing infected monarchs that will pass the disease to wild monarchs on the move or overwintering.

It is a difficult outcome for scientists and other senior students who used to engage teachers on rearing monarchs in the fall as a tool for biodiversity conservation education, and for the

[3] This facility to do research with monarchs even as an undergrad speaks to the malleability of the insect: there is no need of much expertise to experiment with monarchs or an ethics review to do it.

[4] As explained in the introduction, monarchs in captivity share different meanings across types of managing. For butterfly amateurs, for instance, taking care of caterpillars through the adult stage has an "I am helping connotation" and few butterfly amateurs will keep an adult captive. Eggs and caterpillars are the only phases of the life cycle attractive enough to keep the insect in captivity. Adults are very often released after hatching.

graduate students who plan their entire year based on the premise they can experiment with monarchs, even if, in an adjustment, only during the summer.

The disease scenario reveals the tensions between the insect's migratory behaviour and the scientists' desire to control the butterfly's life cycle and, by extension, migration. Mechanistically, a pathogen may be killing the monarchs, but causality appears to extend to the attempts at controlling the insect's life cycle and blocking its migration south. Paradoxically, a research program organized around "saving" *Danaus plexipus* is both killing the insect and obstructing knowledge production about the insect. It is a scientific model cracked by its practical failures and one that shows how knowledge production crystallizes, although not without troubles, "ontological states," as Jasanoff (2004) puts it. In this case, the ontological imperative being the *right reason* to halt the migration in benefit of curiosity or its conservation. There is also a prevailing logic in western science that insects "lack" a complex nervous system forbids them from sensing and responding to pain.[5]

The emergence of disease raised other tensions regarding the practice of rearing monarchs outside laboratories. Dr. Betthauser among other top scientists, proposed including monarchs in the U.S. Endangered Species Act to regulate amateur and business rearing in the U.S., particularly on butterfly farms that use the insect for commercial purposes such as releasing monarchs at social events (funerals, marriages, graduations) as symbols of transition, and by copious amateurs who rear hundreds a year. In contrast, there are few clear guidelines around what can be done to a monarch butterfly in a scientific setting. This is because regulations applied in the American laboratories largely start and end with vertebrates.



[5] The debate about invertebrate pain among scientific community is very complex and beyond the books scope. Some scientists recognize that invertebrates share the gene of *nociception* (in simple terms: response to stimuli) but because there is no evidence of insects protecting themselves from, let us say, a damage to a body part, the understanding of pain seems to be prominently on those directions. On the monarch amateur world, people suggest "ironing" a folded wing to help a monarch and in scientific trials it has been noticed that some insects keep feeding while being eaten (Erens et al. 2012, 31) yet in the scientific world there is a gap in understanding why insects may have the gene of nociception, yet do not protect themselves from harm (to more on the studies about nociception on invertebrates see: Milinkeviciute, Gentile, and Neely 2012).

*Non-animals?*

Invertebrate rights activists characterize the gap here as "no backbone means no protection" (Lynch 2014). The lack of regulation is grounded on the expectation that only a mammal-type nervous system causes animals to suffer pain. But the *laissez-faire* approach is also rooted in anthropocentric and business-centred ontologies around what it means to be an animal, on the one hand, and to be a human conducting research on said animal, on the other.

To start, the U.S. Animal Welfare Act (2013) defines animals as "any live or dead dog, cat, monkey (nonhuman primate mammal), guinea pig, hamster, rabbit, or such other warm-blooded animal." The Act excludes humans, birds, the genus *Rattus*— (mice and rats) —and even livestock when used for food or fiber. Clearly the division of vertebrates and invertebrates is not the only debatable categorization at stake here, but it affects insects more since they are very often the animal other. Cockroaches do not inspire activism campaigns against animal experimentation as primates and four legged animals.[6]

This absence of ethical guidance around conducting research with monarchs appeared repeatedly in conversations I had with the Lab's younger scientists. We might ask whether the spike in dead monarchs over the two summers to the point of total collapse reflected that dearth of regulation. Indeed, perhaps the overwhelming mortality questions the very premise of the research enterprise. Graduate students shared tensions on producing the very problems they argue their research seeks to redress. This shows that the ethos around experimentation is more complicated than the Act's purview addresses. To Lukas and Nancy, and much of the rest of the Lab's team, monarchs are indeed animals, even charismatic animals perhaps only slightly orthogonal to cats and dogs, and worthy of protection. The team is sensitive to the paradox between the absence of ethical consideration and the animals' valorization. The wild monarch as an icon of North America plays a crucial role in how the lab's interlocutors feel about experimenting with "their animal." As Lukas remarked,

> I feel very strongly about insect conservation. I know monarchs are among the insects that need *our help*, and I think they are *beautiful animals*. Hmmm, so like when we collect eggs for experiments, and *I'm always caught in this dilemma of*

[6] The Canadian case is not too different. Research with insects is not even accounted as research with animals.

> *what to do with these eggs*… Because we don't have time, resources, and plants to raise them. A lot of scientists would take the option of just kill[ing] their study organism, with insects any way you can do that, there's no restrictions of what you can do with them, really anyway. With vertebrates, it is different. But it gets *weird* when you get to invertebrates you can do whatever you want. So I can freeze them, or try to feed them, or find plants outside or people to take them…Whereas with cabbage withe [the other butterfly he tests], I would freeze them (Lukas, Clark Monarch Lab St, Paul MN. July 2014 emphasis added).

-Why would you freeze a cabbage white, and not a monarch? I asked. "Because," Lukas replies, "A) they are *not native*, and B) are abundant. I commonly freeze hundreds of them *but not with monarchs*. I give some of my monarchs to people, and *we raise* them at home too."[7] (Lukas, Clark Monarch Lab St, Paul Min. July 2014 my emphasis).

For Nancy the butterfly's charisma matters yet there are also the ethics around who gets to decide an insect's life.

-"I can do whatever I want," she says,

-"I can pull out wings and do really ugly things. You can do a live dissection [vivisection] of cockroaches to see a heart still beating."

The tensions around killability express how becoming-with is fascination with the *pack*–or the wild, but also the encounter with that affect animal (Ryan 2015) that troubles altogether what it means to conserve life through science. Becoming in the *snow globe* metaphor is becoming-with-fascination, but prolonging life to kill monarchs and facing a massive die-off of research subjects confronts Nancy with the "difficulty of reality" of that fascination. In putting Cora Diamond (2003, 74) in conversation with this use of becoming animal, we can address it as an act of facing a "difficulty of reality," such as reminders of our own human vulnerability to pain and death, but also and in connection to that vulnerability, an attempt to ignore difficulties that are obvious. The blindness towards the suffering in the slaughterhouse comes to mind as the landmark example. Such difficult realities stem from experiences in which, Diamond continues, "we take something in reality to be resistant to our thinking it, or possibly to be painful in its inexplicability" (2003, 2). Diamond argues that we therefore attempt to blind ourselves to certain difficulties—or pretend to anyway—that remind us we ourselves are vulnerable. A finite corpse, afraid of pain and suffering. Diamond uses a character out of South African Nobel Prize James Coetzee's lectures on

[7] Cabbage Withe is originally from New Zealand and was introduced to North America in the last century.

the philosopher and the animals to explore the concept of difficult reality. According to Diamond we should read Elizabeth Costello, who in Coetzee's story is wounded by what "we" do to animals, (basically farming them for food), in relation to our own lives, as "the lives of the animals we are." In a similar sense, Deleuze refers to this suffering as part of becoming animal, "Every man who suffers is a piece of meat. Meat is the common zone of man and the beast, their zone of indiscernibility" (2005, 17).[8] A comment here?

Lukas and Nancy shared their uneasiness to being the carriers of the monarchs "slaughterhouse." However, whereas Lukas lessens it through claims of it being a "little sacrifice" for the good of the species and through finding his research animals "homes" rather than freezing the captive monarchs he rears, Nancy frames it through an empiricist's self-critique of this "lab idiom of sacrifice."

-"It was hard for me," Nancy shred,

-"I am vegetarian for ethical reasons. I won't kill an animal to eat it, but I will kill for an experiment? I don't know how rules are in other countries when [the experimental animals] may be dead, but here you go through a lot to work with vertebrates, but not for invertebrates."

Nancy adjusted the number of Lab samples she took and the lengths she went to optimize her data. Although the high rate of dead monarchs made her reorganize her doctoral research, during that conversation she kept criticizing the form in which North American scientists are allowed to experiment with insects. Two monarchs mating outside interrupted the exchange Nancy and I were having. The discussion was clearly about an issue that mattered to both of us, but the mating monarchs suddenly seemed to be an important punctuation. It was the first monarch she had seen mating outside the laboratory's walls. She stood up quickly to record the moment, ending the chat.

But one need to wonder whether Nancy traded one source of ethical dilemma for another. She said she switched out of experimental analyses to an approach in biodiversity conservation in which she feels less moral uncertainty. My immediate thought was that conservation model trades in a similar imbalance south of Minnesota. As Haraway states, we see a logic retaining the right to articulate bodies and disarticulate others (2008, Caring, KE) that operates through the continuum of post-colonial and now neo-colonial institutionalizations of *right reason*. We cannot even argue that this is a less deadly practice, the global North-led environmentalism is embedded in a similar

[8] This is a passage in 2005 [*1981 In French*] Deluze's appraisal of Francis Bacon.

dynamic around the right to control another's territory and livelihoods—human and otherwise that as I write has impacted the lives of activists and reserve's leaders, some whom have died as the complex consequences of a reduced hold over their land in the name of protecting monarchs. In this sense, the incarceration of animals and enclosing land in colonial and current times is governed through this continuum. But these are, as I have shown, not totalizing projects precisely because they occur through more-than-human assemblages that do not constrain, or at least completely, to the imperative of universal reasoning.

## Conclusion: Rethinking inequalities in the lab

The biopic with which we began shows Frederic Urquhart tracking monarchs over the course of forty years. In the film, one can see Urquhart mapping monarchs in Texas, traveling to the U.S.'s southern border only to be disappointed by failing to find monarch clusters there. Every lead points to Mexico, but he cannot or does not want to go farther South—people say it was his health—as if that south is too much to handle. Through Nora's help, who posted a call for research assistants in a Mexican newspaper, Dr. Urquhart finally finds an American, who by proxy of his Spanish-speaking girlfriend from Michoacán, helps the scientist traverse this cultural-physical frontier. The politics of enclosure at the Oyamel Fir Forest, once Urquhart mapped the monarch route north to south, are missing from the movie.

For Western-minded scientists, Mexican policy makers, journalists, and moviemakers, the Oyamel Fir Forest represents a territory of incursion in which foreign scientists have a leading role. On other contingencies, the act of controlling the insect's life as captured in the feeding and Lukas's video is a multi-species representation that encapsulates the dynamic of the power to kill and the power to conserve, in my view both demonstrating the contingencies of working with and becoming–butterfly. That is why becoming animal in the lab goes beyond fascination with the wild butterfly and immerses both humans and butterflies in an uprooting contact zone that challenges the stable categories of the scientists. Nancy's disappointment at rearing monarchs for her research and the thrill of catching two mating in the wild represent some of the contours of a complex relationship winding through the right to protect animals in the wild, and the scientists' right to kill in captivity. The same occurs when Lukas takes the captive monarchs back home to rear them in an open space with his family. Yes, multi-species relations, from the story of discovery, its

racialized depiction at a Toronto theatre sparking debate, through consequent lab practices and its unexpected pack members, are unequal, but they are difficult to bear for butterflies and human animals. The movie theater and the lab, in sum, were also a sites where interspecies encounters interhuman encounters challenge those very structures of learned myopia.

In the next Chapter I explore what it means to inhabit in a land reserve that was formed to recreate, what Nancy so attractively calls a monarch "*snow globe*."