Queerly Rooted in Vassar's Plants:

A Botanical Descent into The Planthroposcene

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Introduction

Queer botany/Queer ecology is about decolonizing our understanding of the natural world. It is about seeing plants, land and animals not in opposition to humans, or as something we need to control but rather interconnected and interdependent with nature and the natural world… It is also about uplifting indigenous knowledge and understanding.

- Mo Brown (Interlocking Roots)

To begin reading this thesis, take a deep breath in, savor your lungs full of air, and then release the borrowed breath back out. Now you're an accomplice, entangled with all other life, conspiring in the aerobic exchange that unifies us all.

Conspiring, here, refers to both political conspiracy as many of us think about the term and the literal co-respiration to which the word conspire is related. This dual definition is put succinctly by Tim Choy in *Reactivating Elements* when he writes, "*Conspiracy.* The word's Latin roots *con* ("with") and *spirare* ("breathe") could not be more literal, and using this word to figure the joint between politics and breathing brings tones of necessary intimacy and risk to the figuration of political collectivity" (Choy). Conspiracy, at its core, refers to the act of closely breathing together. Plants and their photosynthetic ancestors made, and still make, the oxygen we inhale, and it is the carbon dioxide we breathe out that sustains photosynthesis. In a biological sense, our bodies implore us to breathe with plants (and other photosynthetic organisms), which firmly roots us all in a life-sustaining conspiracy.

Natasha Myers expands on this sense of conspiracy with plants to develop the political stakes of this biological push and pull. She points out that it was ancient photosynthetic beings who began this conspiracy, filling the atmosphere with oxygen and priming the world for large

aerobic life, including humans and all other animals, to emerge. Bearing in mind Choy's definition of conspiracy, Myers writes, "Plants are the world-makers we need to heed if we hope to grow liveable worlds. And our worlds will only be liveable worlds when people learn how to conspire with the plants" (Myers, "How to Grow Liveable Worlds"). Photosynthesis—the process of turning carbon dioxide, sunlight, and water into usable and stored chemical energy—underpins life on Earth in multiple ways. To name just two important world-making properties of photosynthesis, it provides food and atmospheric oxygen. As humans, we need not try very hard to find what we have to learn from plants, by breathing we partake in the world plants and other photosynthetic organisms made. Myers continues her argument by introducing the concept of the Planthroposcene, a hybrid term between plant and anthropos, which is in part a response to the idea of the Anthropocene:

> The Planthroposcene names an aspirational episteme, not a timebound era, one that invites us to stage new scenes and new ways to see and seed plant/people relations in the here and now, not some distant future. And it is grounded in the wisdom of the ancient and ongoing radical solidarity projects that plants have already cultivated with their many people. (Myers, "How to Grow Liveable Worlds")

Plants, in their ancient and ongoing world-building, serve as a model for humans as we radically and rapidly re-imagine the worlds we live in. Throughout their existence, photosynthetic organisms have fundamentally altered both the planet's atmosphere and the world's survivability for non-plant life. This history of alteration contextualizes rapid climate change and the loss of biodiversity characteristic of the Anthropocene provocatively. A world built by plants—the world humans evolved in—contrasts the extractive and isolating rhythms of the early

Anthropocene. As an episteme, the Planthroposcene centers plant/human hybridity in world-making, revealing new ways of viewing life in the Anthropocene. Our breathing (co-respiration) with the plants is a basis for life on earth, providing a glimpse into the Planthroposcene; in our grand act of atmospheric conspiracy, plants and humans breathe together to create and sustain the world we all inhabit.

Indigenous botanist and storyteller Robin Wall Kimmerer has written about plant/human relationships extensively, including works about reciprocity which expand this view of planthropos conspiracy. In her writing, she calls readers to acknowledge both the many gifts non-human living beings give to humans and the scale of harm inflicted by humans on non-human life and the planet. This tension between the relative abundance available to us as a species and our greed in response leads to what Kimmerer calls "the covenant of reciprocity" (Kimmerer, "The Covenant of Reciprocity"). On the topic, at the end of her book *Braiding Sweetgrass*, Kimmerer writes:

> The moral covenant of reciprocity calls us to honor our responsibilities for all we have been given, for all that we have taken. It's our turn now, long overdue. Let us hold a giveaway for Mother Earth, spread our blankets out for her and pile them high with gifts of our own making… Whatever our gift, we are called to give it and to dance for the renewal of the world. In return for the privilege of breath. (Kimmerer, *Braiding Sweetgrass* 384)

Viewed through indigenous wisdom and stories, our responsibility today is clear to Kimmerer. As humans, we need to engage deeply in reciprocity with non-human life and the natural world, using our diverse skills and talents to demonstrate our gratitude for everything that sustains us.

Significantly, Kimmerer ends her book with the idea of breath, centering the same global exchange of air that Myers and Choy write about as conspiring.

These ideas of conspiracy and reciprocity urge us to critically lean into the more-than-human entanglements inherent in our lives. Not only do plants provide us with physical necessities like air and food, but they are powerful actors in the non-biological realities of our existence. Multidisciplinary scholars of plants, including Myers and Kimmerer, often move between scientific research and artistic projects to express alternative relationships to plants that, if widely adopted, would radically restructure society. The world-altering potentials of these alternative relationships to plants—and the often-overlooked acts of conspiracy/co-respiration that build these relationships—are at the heart of this thesis. This project is an exploration of the imagined boundaries between plants and humans, a reflection on the scientific system of botany which has often been tasked with developing those relationships, and a meditation on the aspirational episteme of the Planthroposcene.

Queer + Botany ≠ Queer Botany

When I first proposed this research topic, I called it by the catchy title, "Queer Botany." At that point, this project was an attempt to map out the many ways in which queerness and botany could intersect. I was interested in the queerness of botany, in queering botany, and in botanical forms of queerness. Those interests remain, and they are present throughout this work, but another set of questions about academic disciplines has emerged and substantially contribute to the form of this thesis. Queer botany, as I began to map it, quickly outgrew the sum of botanical science and queerness; my transdisciplinary subject continued to grow until it was

entirely unwieldy. As I researched, fields added themselves to my argument, starting with adjacent bodies of work like feminist science studies and queer ecology, then moving to more distant bodies of scholarship that I was less familiar with including philosophy, anthropology, and art. Each new discipline pushed a thesis-sized vision of queer botany away. This intense interdisciplinarity not only presented problems for me as a researcher but upended conventions of form significantly. In this crisis of disciplinarity, however, a new set of queer potentials for this project became possible and my desire to map queer botany turned into a desire to create around the topic of queer botany[1]. Creation of this sort requires some understanding of queer botany, which is subject to a similar set of difficulties as questions about disciplinarity. Throughout this text, somewhat unique framings of both botany and queerness are learned and employed from queer botany, highlighting how queer botany both relies on and transcends distinct bodies of academic thinking and writing.

Botany, for example, can be defined as "the scientific study of green plants, including organisms that contain chlorophylls a and b, store their photosynthetic products as starch inside the double-membrane-bounded chloroplasts in which it is produced, and have cell walls made of cellulose… encompassing all levels of nature's hierarchy: molecules, cells, tissues, organs, organisms, populations, and species." (Crisci et al.) Plant science is often treated as a synonym for botany, although botanical research may also refer more narrowly to research on the evolution of plants, including phylogenetic, taxonomic, and morphological approaches, as well as the maintenance of natural history collections ("Twenty-First Century Botany"). There is a

[1] The introduction to *The Queer Art of Failure* has substantially shaped my thinking on queer approaches to disciplinarity and can be referenced for a more broadly applicable review of the topic (Halberstam).

general sense among some researchers that skills traditionally associated with botany, including identification and collections experience, are rapidly declining and the continued reduction of botany courses, degrees, and programs imperil the narrower definition of the field (Crisci et al.). This perceived decline, as well as the close associations among botany, natural history, and the history of plant sciences, is why I have chosen to favor the term botany in this project over plant science. Viewed through queer botany, botany is not only the science of plants but also a window into larger social and historical processes of understanding plants. Not only through ethnobotany and economic botany but through all aspects of the field, botany informs how many cultures think about plants. Said another way, botany is one approach to understanding plants that often prioritizes physical and chemical properties, but is used here to also access the associated political and cultural understandings of plants.

Defining queerness, even defining the aspects of queerness that inform this work, provides unique and generative difficulties. One definition of queerness that I find helpful comes from "Toward the queerest insurrection" and was shared with me on the syllabus of Vassar's queer studies seminar, it reads:

> Queer is the abnormal, the strange, the dangerous. Queer involves our sexuality and our gender, but so much more. It is our desire and fantasies and more still. Queer is the cohesion of everything in conflict with the heterosexual capitalist world. Queer is a total rejection of the regime of the Normal. (Mary Nardini Gang)

Queerness for the Mary Nardini Gang is an anarchist project that rejects normalcy and defies cisgender and heterosexual systems. In its rejection of the normal, queerness resists stable

definitions, opting instead for situational alignments guided by a shared sense of rejection of "white hetero monogamous patriarchy." (Mary Nardini Gang)

The existence of queer studies requires a body of scholarship that acts in some ways like a cohesive discipline, allowing for this project to root itself in key works and scholars, but queerness often exists well outside the body of work that calls itself queer studies, and it is precisely that rejection of institutionalization that may constitute one modern form of queerness. In this project, I aim to adopt an expansive vision of queerness that includes queer studies as an academic discipline, LGBT recognition in STEM, non-human lessons of existence outside of heteropatriarchy, and the myriad projects that exist beyond dominant queer or LGBT spaces but align themselves against "white hetero monogamous patriarchy." To use an example that I return to later, a queer tree can be queer in its sex by demonstrating alternatives to the understanding of biological sex which often correlates to gender in heteropatriarchy. In that act, the tree is then rendered queer by the application of its biology to normal understandings of sex and gender. Finally, the act of declaring queer kinship with trees constitutes another queer move to reject the worldviews that rest upon rigid human and non-human boundaries while charting a multi-species intimacy that offers new ways to think against capitalism. In this thesis, queerness is employed on all of these levels and more, ranging from biological facts that complicate social and cultural understandings of gender or sexuality to projects in more-than-human world-building beyond our current "regime of the Normal". Given this expanded definition of botany and the wide definition of queerness, it's no surprise that summarizing queer botany became impossible early in my research. For now, the inability to define queer botany is a reminder of its constitutive queerness.

Given these definitions and what they reveal about queer botany, the act of creation can come into focus. With each section of this thesis, I engage with a small sampling of relevant scholarship around a theme that I found central in my research on queer botany. Each section includes academic prose with citations like this as well as more creative elements. In my work, I found that isolating either articulation of queer botany was incomplete. Given the fact that queer botany has primarily been articulated and circulated by artists, most often in the form of guided walks but also in gallery settings, it is unsurprising that this project inherited some of those qualities (Baumann; Zavala; Myers, "An Anthropologist among Artists in the Garden"). Natasha Myers explicitly writes about the radical potential of making art with plants when she includes "Make art for the Planthroposcene" as the last step in her list describing how to grow livable worlds through the Planthroposcene (Myers, "How to Grow Liveable Worlds"). To conclude, she writes, "Whatever you do, conspire with the plants to make art like your life depends on disrupting the colonial common sense that would leave us all to die in the Anthropocene." (Myers) For queer botany, alternatively structured work that exists outside both queer studies and botany has an extraordinary cohesive property. It is through art, defined broadly, that the most powerful elements of contemporary queer botany emerge. Creation, then, shifts focus from the question, "What is queer botany?" to the question, "What vision of queer botany am I making in this thesis?" To partially respond, I aspire to make a vision of queer botany that is rooted at Vassar, responds to both human and plant experiences, challenges cis-heteropatriarchy in botany, and conspires with the plants to make alternative present realities.

Structure of thesis

This project is composed of three main sections: Words and Power, *Ginkgo biloba*, and Coming Out//Coming Outside. Each section has two parts, one more artistic than the other.

Words and Power is the first section, beginning with an overview of the history of botanical nomenclature before engaging specific case studies of changes in the words used by botanists. This section both provides examples of language which might make botany more accessible and points out the role of language regulation in constructing exclusive fields in the first place. Botany, with its international congress dedicated to nomenclature, can benefit from changing specific language while questioning the rigidity of its words to build more inclusive and accessible futures. This chapter is followed by the more creative portion of the section, a written overview of the walk I will deliver as part of this thesis. The overview is an example of one route across Vassar's campus with seven possible stops to discuss queer botany. Each stop includes a primer for discussion or a brief overview of why I chose that stop.

The second section of this thesis, *Ginkgo biloba*, focuses on ginkgo trees to explore the potential of writing a combined social and natural history of a species. By narrowing the scope of this chapter to ginkgo-human interactions, the potential depth of queer botany is explored. This section focuses on the ginkgo trees at Vassar whenever possible, and moves among biological sex, race, foraging, and colonial legacies to tell a brief queer history of ginkgo. The chapter "*Ginkgo biloba*" is followed by a DIY recipe for foraging ginkgo nuts and fostering your own relationship with the tree. This recipe is an invitation to consciously partake in the practice of building relationships with plants that transgress current systems of power.

The final section of this thesis begins with its artistic portion which is a series of personal memories about coming to know plants and queerness. By telling these stories, I aim to open up some of the theoretical implications of queer botany and write about the experiences which brought me to this subject. The second chapter of the section, "Coming Forward," interrogates the inside/outside binary central to both sexuality and queer botany before moving through the

idea of pleasure to a critique of the type of limiting creation this project engages in. Aware that part of what I appreciate about queer botany is its ambiguity and seemingly limitless potential, the section concludes with a call for greater instability whenever possible rather than the wholesale quantification of the interactions between plants and queerness.

To wrap up this project, I end with a mediation on Natasha Myer's call to garden against Eden. While framing this thesis as a metaphorical garden, I recount and reiterate my central arguments without engaging in the type of concluding that goes against "Coming Forward." By integrating gratitude and close relationships with plants in "Me, The Trees, and Our Gay Little Eden," I strive to wind down this iteration of queer botany at Vassar while advocating for the continuation of these ideas in other forms.

Words and Power

In 1905 the *International Code of Botanical Nomenclature* was adopted by the International Botanical Congress to standardize the naming conventions of plants (van Rijckevorsel). In the code, scientists adopted the binomial system developed by Swedish taxonomist Carl Linnaeus, as published in his 1753 work *Species Plantarum* (Choate; van Rijckevorsel). The formal codification of binomial botanical nomenclature in 1905, and the subsequent decades-long decline of alternatives, resulted in the standardization of botanical names which persists today (Nicolson). Under the code, every distinctive type of plant is associated with one unique Latin binomial consisting of a Latin (or latinized) genus and species, where the genus was determined by reproductive anatomy (Choate; Green). Any species described by Linnaeus himself is recognized by the name he published, and any plant he did not describe bears only the first valid name it was published under following Linnaeus' publication (Rao). Eventually, the code expanded to include typifying herbarium specimens for each species and provisions for renaming plants if their name becomes invalid, but the standard of one correct Latin name for each plant persists (Rao). The wide adoption of Linnaean classification, which preceded and justified its formal codification, was viewed as a mostly practical decision by scientists but can be used to understand the historical context within which botany emerged (Nicolson).

When developing his naming conventions for genera and species, Linnaeus not only incorporated descriptive Latin terms when available but he also adopted the habit of naming species after other botanists as a sign of honor (Londa Schiebinger 202). One clear example of both naming conventions is *Magnolia acuminata (L.) L.* which was first described by Linnaeus in *Species Plantarum*, as denoted by his author abbreviation "L." (Linné). The genus of this

plant, *Magnolia*, was named in honor of Pierre Magnol, and the specific epithet, *acuminata*, refers to the acuminate(long-pointed) shape of the plant's leaves (Londa Schiebinger 202). Vassar's arboretum has three *Magnolia acuminata*, more commonly called cucumbertrees, including one very young example, the class tree of 2017 which is directly outside of the college center. For species like *M. acuminata*, and ideally most plants according to Linnaeus, a binomial is descriptive, honorific, or both. Science historian Londa Schiebinger wrote about this habit in her 2004 text *Plants and Empire* stating, "[T]his practice of naming plants after great botanists seamlessly folded a history of botany into botanical nomenclature itself: 'it is necessary for every Botanist to treasure the history of the science which he is passing on, and at the same time to be familiar with all botanical writers and their names.'" (Londa Schiebinger 203) With the formal codification of Linnean nomenclature in 1905, one particular history of science and acceptable botanical nomenclature were united, informing over a century of botany and largely silencing competing botanical histories.

The history and language of botany which were inherited from Linnaeus undoubtedly shapes modern structures of botany, both physical and ideological. This chapter begins with a reflection on some of Robin Wall Kimmerer's botanical linguistic interventions informed by indigenous language before briefly raising two examples of language in botany which can be troubled by queer botany. Finally, a reflection on what the second term has left unchanged is used to speculate about sites of further, more radical change in botanical language. The goal of this chapter is two-fold: I am to both provide examples of botanical language which can be adopted in an effort to make botany more accessible and to begin troubling the historically regulated use of language in botany.

Ki/Kin & Capitalization from Kimmerer

Throughout this thesis, two conventions have been adopted from Kimmerer's writing about botanical language. First, Ki/Kin pronouns are used to refer to non-human life. Derived from the Anishinaabe word Bemaadiziiaaki used to describe "beings of the living Earth," Kimmerer uses the term "Ki" to replace the often-objectifying pronoun "it." ("Nature Needs a New Pronoun") Rooted in efforts to reclaim her native Anishinaabe language, she offers Ki to transform the English language. The hybrid term, derived from an Anishinaabe word but fashioned to fit into English well, is an invitation to incorporate the view of animacy into our grammar. The plural, Kin, relies on the existing English term and requires English speakers to refer directly to all other life as relatives. Although used sparsely in this text, Ki/Kin pronouns are intentional grammatical attempts to recognize the deep influence of indigenous scholarship on this thesis and a reminder of our shared animacy with all other life.

The second habit adopted from Kimmerer is the capitalization of plant names when referring to others (Kimmerer, *Braiding Sweetgrass* 385). As I capitalize the name Kimmerer to convey respect and mutual personhood, I also refer in this thesis to a specific Ginkgo tree outside Vassar's Main Building. I capitalize Ginkgo both to keep with nomenclatural rules about genus names and to convey respect and mutual personhood when referring to the specific tree. This acknowledgment of personhood is an attempt to resist the positioning of human life as separate from all other life. Kimmerer's use of capitalization is what inspires mine, although many other linguistic attempts to acknowledge the personhood of plants can be found throughout queer botanical texts revealing the substantial contributions of Indigenous thinking to queer botany both in this thesis and in other works.

Bisexuality is perfect

To return to botanical language directly descended from Linnaeus, and to introduce one of the key interventions made by queer botany, we now turn to flowers. While taking my first class at Vassar that taught botanical terminology, only one term was met with resistance: hermaphrodite. Unlike most of the other terms we learned, several of us knew immediately what that word meant. The social and biomedical histories associated with the term made it feel odd to hear the word used with such ease and brought to mind the intersex activism I have come to appreciate. Seemingly derived from a similar place as the human application of the term given the overlapping meanings, I wondered that day how botany acted as a refuge for a term I thought was getting replaced.

Ironically, Queer botany is often introduced by discussing these very flowers because they contain both femme (seed-making) and masc (pollen-making) parts. Most often, the term used for these flowers is hermaphrodite, but there are many synonyms including perfect, bisexual, and cosexual. Frequently, the prevalence of bisexual flowers attracts the attention of LGBTQ+ and genderqueer people who are learning botany. About 90 percent of flowering plants are bisexual, with the other 10 percent representing all of the reproductive strategies employing unisexual flowers (Barrett). For queer students, this fact can provide a moment of relief from a social context that works to naturalize binary gender. Bisexual flowers emphasize how the biological sexual system in humans is not universal across all life, and in fact, it is just one system in a landscape of diverse biological sexual strategies. For some trans and nonbinary students of botany, myself included, learning about bisexual flowers is an essential step in the recognition of botanical forms of queerness. The fact that hermaphrodite has been the principal term used to describe these flowers offers another interaction between queer botany and bisexual

flowers. Namely, the use of the term hermaphrodite encourages a conversation about politically changing botanical language.

In recent years, there have been many publications by researchers, intersex people, and LGBTQ+ activists around the term hermaphrodite and its application to humans born with sexual traits that do not fit binary expectations of male or female bodies. Summarized broadly, many intersex groups have called for medical professionals to stop applying the term hermaphrodite to people due to its social, historical, and legal impacts as well as its factual inaccuracy. In 2005, a group of 50 international intersex researchers proposed the term "disorders of sex development," DSD, to replace hermaphrodite and intersex in research communities, but the term has been criticized by some intersex activists for the stigmatizing use of "disorders" (Hughes et al.; "InterACT Statement on Intersex Terminology"). In some cases, the term "difference of sex development" is used to preserve the abbreviation, but criticisms of researchers and medical institutions for pathologizing and stigmatizing intersex traits are common and often lead activists to avoid using "DSD" altogether ("The Terminology of Intersex"; "InterACT Statement on Intersex Terminology"). Rather than focusing on any one term, intersex communities rely on a wide range of terms to describe natural diversity in human biological sex. The term intersex is also contested due to its negative associations and connections with the incorrect view of intersex as a stable third sex. Intersex is used here to describe both a wide range of traits and the activism that has been associated with those traits.[2]

Unlike humans, some plants can be accurately described by the term hermaphrodite. However, given the word's long association with harm against intersex people, the impact of that legacy for young queer botanists, and the presence of accurate alternatives, it seems logical to

[2] For more on the history of language used to describe intersex people and the role of medical science in that history see *Hermaphrodites and the Medical Invention of Sex.* (Dreger)

start using the equally descriptive and historically synonymous term of "bisexual," the related term "cosexual," or a new word altogether. Admittedly, the term bisexual is often already favored by many botanists, and hermaphrodite is increasingly viewed as an antiquated term. One question, then, might be if the term deserves to be formally and openly retired from botanical lexicons.

Plant awareness disparity

A recent example of an attempt to retire a term from the vocabulary of botanists can be found in plant awareness disparity, abbreviated as PAD. PAD is the phenomenon of people failing to recognize the contributions plants make to life, often explicitly viewing plants as inferior to animals (Parsley). Outreach and education efforts by botanists are often negatively impacted by PAD, requiring researchers to not only convey the significance of their work but also convince people of the physical and social importance of plants. PAD has been suggested as a direct replacement for the earlier and still popular term "plant blindness." Advocates of the term PAD often cite the association between disability, specifically blindness, and negative qualities as a primary reason for the change (Parsley; McDonough MacKenzie et al.). In the early 2000s, plant blindness itself replaced "zoochauvinism" as the preferred term to describe a common lack of recognition for plants. Zoochauvinism, however, carries a somewhat different meaning and may be used to refer specifically to the belief that plants are inferior to animals. Having been published for the first time in 2020, it remains too early to say definitively that "PAD" will replace "plant blindness," but the possibility that it might demonstrates one way that words can change for botanists.

The fact that PAD was suggested precisely because of the disability metaphor in plant blindness highlights the types of considerations that can result in changes in vocabulary. PAD

represents an intentional change in words as a response to the structures those words reproduce. One of the earliest papers attributed with beginning this shift away from the term plant blindness for its ableism came from a group of researchers working on the Plant Love Stories project, a web project to collect and display personal stories about the ways plants have changed people's lives. In their paper, the group did not use the term PAD as a replacement, nor did they suggest any specific replacement, rather they highlighted the importance of shifting the conversation away from simply seeing plants by focusing on efforts to appreciate and love plants. They conclude their paper by writing:

> We believe that everyone has a Plant Love Story in their lives, even if they do not think they do. We do not share these stories to "cure" or "prevent" or "stop" anything. Rather, we bring attention to these emotional relationships that already exist. We choose not to root ourselves in metaphors that assume that all people experience the world in the same way; we hope others will consider this position as well. (McDonough MacKenzie et al.)

The group's focus on exposing the myriad plant-human relationships that already exist rather than working to develop a universal "cure" for "plant blindness" allows for more generative conversations about local plant science communication. PAD, as a continuation of this move away from "plant blindness" towards more inclusive visions of botany, retains some of the prioritization of plant-human relationships that are so central to queer botany as I am developing it in this thesis. Some of the assumptions underpinning PAD can still be troubled, however, to develop a queerer vision of plant-human relationships.

In both terms, PAD and plant blindness, there is a foundational assumption that plants and humans are inherently different. Returning to the many moments of overlap described in my introduction, including breathing and eating, allows for a partial blurring between what is plant

and what is human. In her essay “Naturally Queer,” Myra Hird argues for the deterioration of the perceived boundary between bacteria and humans given the profound influence bacteria have on both human evolution and daily life. She argues that “‘we’ live in a symbiotic relationship with bacteria, and when we say ‘human’ we necessarily mean, at a physical level, bacteria as well.” (Hird). This argument, in some ways, can be extended to plants. ‘We’ are made up of water that has passed through plants, energy that was transformed in photosynthesis, and nutrients that were made usable by plants, constituting a similar symbiotic relationship to that with bacteria. Notably, plant and human lineages diverged a long time ago, and there are unique adaptations that each lineage has gained since their divergence, but to take up Hird’s assertion that “bacteria are us” can readily include plants in the ‘us’. Any human ‘we’ that exists, must also exist with plants, emphasizing our interdependence. In this light, PAD becomes much more curious. What is an awareness, appreciation, or love for plants if not a recognition of our profound connectedness? The words we have to describe people's perceptions of plants are wholly lacking precisely because they reinforce the separation between humans and plants. Plant awareness disparities would not be an issue if we knew ourselves well enough to recognize the moments of plant/human convergence which underpin our daily life.

Vassar's Queer Botany Walk

This written description of the walk which I prepared as part of my thesis is intended to act as a rough overview, intentionally leaving an abundance of flexibility so that conversations about queer botany at Vassar can develop naturally over the course of a walk. This walk takes about 45 minutes to complete, starting outside Olmsted Hall and ending at Josselyn House (Joss). Rather than prescriptive, these points are examples of different types of discussions and stops that could happen. Part of the strength of a queer botany walk is its ability to generate discussion about location-based plant-human relationships in the context of queerness, so opportunities to change the structure of the walk to encourage discussions of particular interest to the group are both welcomed and desirable. Additionally, there is more to say and think about each of the points chosen for this walk than I have written, and ambiguity has been curated here as an invitation to mentally wander around this written walk. As a reader of this walk rather than a participant in the physical walk, you are encouraged to disrupt and resist the linear progression which has been inherited from the physical basis for this walk's plan

Point 1: Introductions and Edith Roberts - the steps above the Shakespeare Garden

The first stop on this walk includes the most information and will serve as an opportunity to come together as a group around the topic of queer botany. The form of introductions will depend on the size of the group, but ideally, everyone will have a chance to share their name, pronouns, and what brought them to a queer botany walk. Introductions will be followed by a brief introduction to my project and the topic of queer botany. While describing queer botany, I will rely on the abundance of bisexual flowers at that site to demonstrate one of the common ways queer botany is articulated. Bisexual flowers, in their ubiquity and diversity, can be both representationally significant and politically important for genderqueer scientists. As a synonym

for hermaphroditic flowers, bisexual flowers also take on an important discursive role in queer botany.

From the steps above the Shakespeare Garden, you can see the extremely manicured Shakespeare Garden itself and the Edith Roberts Ecological Laboratory. In highlighting the stark differences between the two areas separated by the Fontynkill, the story of Edith Roberts can be brought up. The innovative ecological laboratory she left behind, which has been curated for over 100 years, blurs the perceived binary between natural/wild spaces and manicured gardens. Further, Edith Robert's position as an early pioneer in restoration ecology, an advocate for the native plants of Dutchess County, a chair of Botany, and possibly a non-heterosexual person demonstrates the depth of queer botanical roots at Vassar. From that view, the plants show us a queer history of Vassar in the Edith Roberts Ecological Laboratory and Shakespeare Garden.

Note on the transition to stop 2

Depending on the size of the group and their eagerness to traverse gravel hills, the path to point 2 may go around Commencement Hill to the North or South. By going along the South side of the hill, a view of Sunset Lake is added to the walk. By going North of the hill, we stay on paved surfaces and see a community of plants generally obscured by buildings. If the paved hill also presents any difficulty, the discussion from point 2 may be brought up at point 6 which is also a beech tree[3].

Point 2: Beech Leaf Disease - the north end of sunset lake

The beech tree at this stop has beech leaf disease (BLD), a rapidly spreading condition that defoliates and eventually kills beech trees. The disease was described less than 10 years ago and has moved so rapidly that surveying for healthy plots consistently results in range extensions

[3] Sunaura Taylor's discussion with Judith Butler in *Examined Life* provides a helpful framing of walks in relation to disability studies which has led to the inclusion of an optional course for this walk that avoids stairs, steep slopes, and unpaved surfaces (*Examined Life: Philosophy Is in the Street*).

of the disease. Most beech trees that contract the disease die quickly, threatening the role of beech as a major food source in eastern U.S. forests. This intense mortality is the most recent in a long history of similar invasions and raises important questions about anthropogenic threats to dominant tree species. It's sad to think about the rapid loss of biodiversity and negative human impacts on non-human life, but that emotional response opens up an important form of kinship. It would be so much worse to lose these trees without noticing, and respecting them while we still have them can drive visions of radical change.

Point 3: Ginkgo - behind Main Building

Stopping at this ginkgo allows for two conversations, both of which are explained in more depth in my chapter on the species. The first conversation at the ginkgo is that of the tree's sex and the second is the importance of their nuts. On the tree's sex, it is fun to note that this femme tree was intentionally selected for inside the gates of Vassar while masc trees were kept outside along Raymond Avenue. From there, a conversation about switches from masc to femme in ginkgo highlights one queer potential of the tree. The second fact about ginkgo to be discussed is kin's fruit production. The food that female trees produce in the fall, along with the medicinal properties of their leaves throughout the growing season, are an invitation to cultivate novel relationships with a species that is both cosmopolitan and imperiled in its native range. Ginkgo grows readily in cities and tolerates an abundance of pollution, providing an opportunity for people who have limited access to other species of tree to develop a deep kinship with a tree that offers so many forms of relationship. It is important to acknowledge the longstanding use of ginkgo leaves and nuts in China, Japan, and Korea, citing those historical forms of relationship as integral to contemporary forms of relationships. Further, the act of foraging in the U.S. can be situated in histories of anti-black and anti-indigenous oppression. In light of those histories,

intimate relationships with ginkgo can help develop anti-racist and anti-capitalist multi-species kinship.

Point 4: *Ficus* galore - College Center

One of my favorite trees is planted inside a box in the college center. Commonly called a Rubber tree, this *Ficus elastica* has a clear bite mark on one of ki's leaves. Unfortunately for the person who bit the tree, this plant has "rubber" in ki's name because of the irritating latex in ki's sap. We are constantly surrounded by rubber derived from plant latex, and increasingly we are surrounded by alternatives to rubber made from fossil fuels. While only a mild irritant to the person who bit this leaf (hopefully) the constant exposure to latex sap is highly toxic to the communities burdened with rubber extraction (Tully). This decades-old tree in the college center is a sign of globalization and toxicity for the many communities currently working on rubber plantations. When contextualized in the global circulation of plants that underpins plantation-based extraction, the rubber tree planted in Vassar's Main Building becomes a reminder of colonial violence. Importantly, this is not a judgment on the tree, but rather a comment on what ki symbolizes and how ki too has been subject to capitalism.

While walking through the college center there is also a fiddle-leaf fig tree planted in another box near the info desk. This species gained immense popularity through the pandemic and was a way for people around the world to develop a closer relationship with plants while stuck at home. Fiddle-leaf fig trees are extremely close relatives to rubber trees, occurring in the same genus, *Ficus.* This group which is tied up in a long history of unequal poisoning is now helping people to cultivate their relationship with plants.

Point 5: Pawpaw - Aula/Ely Hall

The two young pawpaw trees (*Asimina triloba*) outside the Aula were an important source of joy for me and so many other students last fall. By producing incredibly creamy and sweet fruit, these native trees offer a glimpse into what life might be like if Vassar's arboretum was curated to provide fresh food to the community. My friends and I waited eagerly as the fruit grew, discussing the responsible amount to harvest, and looking for signs that harvesting that year might not be right. When the time came, many of us got to try pawpaw fruit, and there was an abundance of ripe fruit that fell to the ground to be eaten by non-human life. I was devastated to see one morning that a large branch had been snapped off, most likely in an attempt to reach fruit near the top, resulting in major damage to one of the trees. The utopian vision of Vassar as a food forest was shattered for me, but my sense of kinship with Pawpaw was not and even contributed to my affective response to the damage.

Point 6: Matthew Vassar's Arboretum - the metasequoia between Main and Strong

If there is time, I would also like to stop by the Metasequoia across the road from Strong House. Compared to ki's giant redwood relatives, the dawn redwood is less commonly discussed, but ki's presence at Vassar is a strong testament to our campus' status as an arboretum in the most classic sense of the term. This imported species is precisely the type of botanical oddity most often planted in arboreta. By recruiting specimens for their intrigue in an arboretum, species with established relationships to a community are often avoided, contributing to a sense of disconnection between the trees of an arboretum and the communities around that arboretum is located. This choice to grow a metasequoia for ki's perceived otherness makes it all the more ironic that a few specimens have volunteered to grow on Vassar's Ecological Preserve. To wind, birds, small mammals, and our shoes, the barrier between Vassar's arboretum and everywhere

else is entirely porous, stripping away the illusion of control so central to manicured arboretums. The choice to plant this tree here set into motion a set of ecological processes we still can't fully understand or anticipate, powerfully rebuking the sense of other which initially brought Metasequoia here.

Point 7: Sex Tree - south end of Joss Beach, near Raymond House

Sex Tree was my first favorite tree at Vassar, and ki's name is reason alone to visit it on a queer botany walk of the campus. The countless tales of things that have happened under the cover of this beech tree's ground-length branches tell a story of perverse plant-human relationships. For most of my time at Vassar, the tree has smelled like weed and it's been common practice to yell "knock knock" or "Is anyone in there?" before parting the branches to enter. The removal of one of the tree's major branches this year has exposed the area around the tree's trunk, eliminating the complete cover which led to the tree's name. Vassar's relationship with Sex Tree changed, and there have been a series of articles in The Miscellany News discussing the tree in recent months. The collective reaction to Sex Tree's change is a small reminder of the queer plant-human relationships which are already rooted around Vassar. As arguably the queerest of Vassar's iconic trees, a walk into the newly opened Sex Tree is an invitation to imagine more queer relationships with plants at Vassar. One example of a budding relationship that upholds the legacy of Sex Tree is the emergence of the "gay sex bench" on the Edith Roberts boardwalk which derives its cover from dense, and invasive, common reed. A walk around Vassar with an eye for queer botany reveals a patchwork of relationships on campus, sometimes fleeting and other times sustained, that draw us into multi-species kinship which can radically transform how we perceive both Vassar and the non-human life around us.

Ginkgo biloba

Ginkgo biloba, with ki's two-lobed simple leaves and bright yellow fall color, is an often-recognizable tree in urban centers throughout the northern hemisphere. Ginkgo trees can now be found lining streets throughout urban and suburban temperate regions, largely due to their knack for polluted environments and human affinities for their striking looks. At Vassar, Ginkgo trees can be found behind Main building and lining Raymond Avenue from Main gate into Arlington. Their ubiquity in cities is somewhat paradoxical, however, given how recently they were nearly extinct. Remaining mostly unchanged for the past 200 million years, *Ginkgo biloba* is one of the most ancient trees living today, and in many ways is a perfect example when discussing plant evolution and plant-human interactions (Crane). Much like *Homo sapiens, Ginkgo biloba* is the last species in ki's genus. Unlike Humans, *Ginkgo biloba* is the only species in ki's Family, Order, and Class—a more extreme evolutionary isolation than if humans were the sole mammals left on earth (Morse; "Ginkgo Biloba L."). This evolutionary history has forced ginkgo into a queer position as both one of the most biologically secluded plants and one of the most focal tree species; *Ginkgo biloba* is both marginal and disproportionately visible, in both cases due to ki's position as other. With the help of ginkgo trees, the rest of this chapter will introduce a few key concepts in plant biology, consider the importance of foraging in urban spaces, and critically read Alexis Nikole's 2022 TikTok about the queerness of ginkgo trees.

Natural & Social History

Before diving into queerness, there are a few important notes to make about the history of ginkgo. The ancestors of *Ginkgo biloba* were a globally distributed group of gymnosperms,

meaning that they produce seeds without making flowers or botanical fruits. Around 100 million years ago, shortly after the emergence of the oldest flowering plants, ginkgo species started to rapidly decline for reasons that remain unclear—possibly the rapid speciation of flowering plants which could result in altered ecosystems, shifting climates, or both (Crane 121). This decline was punctuated by the extinction of the second to last species of ginkgo less than 5 million years ago, leaving the ginkgo we know today as the sole remaining species (Crane 156). Given recent genetic studies, it seems most likely that *Ginkgo biloba* was found only in one or a few small populations in the interior of China around Jinfo Mountain when ginkgo-human relationships changed so drastically that the species' native range became obscured through cultivation. In his monograph on the genus, Peter Crane describes historical references to Gingko from 980 CE and 11th century China which provide conservative estimates of the first recorded ginkgo-human interactions (Crane 184). Admittedly, the prioritization of written records and western epistemology both lead to later dates than may accurately represent the beginning of sustained ginkgo-human interactions. Nevertheless, by the 11th century, *Ginkgo biloba* was well on its way to once again making *Ginkgo* a formidable and globally distributed group of plants.

The history of the name “Ginkgo” itself is a decent entry point into the social history of Ginkgo. Originally a Chinese name meaning silver apricot, the roots of the name ginkgo are inextricable from the original cultivation of trees for their edible seeds in southern China (Crane 204). Over time, the practice of growing ginkgo trees for nuts and medicine spread to Korea and Japan where the trees naturalized into native forests and picked up myriad cultural significances[4]. It was through Dutch colonization that both

[4] This is nearly too simple and light of an attribution of the significance of ginkgo in China, Japan, and Korea. To read more about the long history of ginkgo in each of these cultures, especially with regard to Buddhism, refer to Peter Crane’s *Ginkgo.*

the name and tree made their way to Europe, but not without changing the contemporary Japanese pronunciation, Ginkyo, of the aforementioned Chinese name into the English name ginkgo. Once growing in Europe, it was Linnaeus who reinforced the Genus name *Ginkgo* while establishing what would become modern botanical Latin, cementing the scientific name used around the world today. From China, through Japan, to Europe then spreading with industrial cities, the name ginkgo bears the modern history of the species itself.

Ginkgo Sex on City Streets

To move to the queerness of ginkgo, it is helpful to first consider the biology of the tree. *Ginkgo biloba*, unlike most plants, has separate pollen-producing and seed-producing individuals often referred to as males and females respectively. Male ginkgo trees develop conelike pollen-producing structures as their leaves emerge out of buds each spring. These cones swell and eventually burst, releasing about a trillion pollen grains into the air per tree per spring (Crane 56). This strategy of rapid release is contrasted by female trees that grow round plum-like ovules each spring along roughly the same timeline. Instead of exploding with pollen, however, these structures secrete small drops of liquid each warm spring morning, drawing them back in each day to recruit pollen from the air. When successful, the pollen will develop for a few more months within the ovule, fertilization will occur, the seed will mature until the fall, and the resulting ginkgo seed will have a chance to germinate in the spring.

These biological differences between masc and femme ginkgo trees give rise to many of the most interesting queer considerations for the species. As one of the most popular street trees, urban planners have given a great deal of thought to *Ginkgo biloba*. That thought, however, gave rise to one very startling fact; most ginkgo trees planted in

cities today are male. At Vassar, the choice was made to plant the female ginkgo for the arboretum within campus walls, and to use male trees as street trees along Raymond Avenue. Crane writes:

> Every year arborists in Washington, D.C., spray large quantities of the herbicide chlorpropham on female trees to prevent them from seeding… In New York City, the Department of Parks and Recreation, as a formal policy, hasn't planted a female ginkgo tree in twenty years. Ordering trees from nurseries that propagate only cloned males is one way to ensure that the gender ban is enforced. (Crane 237)

This incredible movement against female ginkgo trees is often attributed to butyric acid, a volatile compound shared between ginkgo nuts, rancid butter, and vomit that contributes to the distinctive smell of each. Proponents of banning female ginkgo trees bring up the smell produced by the mature nuts each fall and offer a solution in the form of exclusively planting male trees which do not produce nuts nor butyric acid. Male trees come with their own problems, however, and it is gaining attention now that the male trees planted after the ban are reaching sexual maturity. The copious amounts of pollen released by male ginkgo trees is an allergen for many people. For people who aren't allergic to ginkgo pollen on its own, pollen from many different species, including ginkgo, can combine in their systems resulting in seasonal allergies (Yy et al.). Like butyric acid in females, pollen is only produced by male trees, and one strategy to reduce seasonal allergies would be to plant predominantly female trees and trees that do not rely on wind pollination. Whether the energy against female ginkgo trees in cities is exclusively attributable to the smell or the perceived messiness of their fruit, the result is a regulation of tree gender that

verges on a total erasure of femaleness in Ginkgo trees.

Foraging Ginkgo Nuts

When banning female ginkgo trees, cities also inhibit the formation of foraging-based urban food systems that would be supported by the annual production of edible ginkgo nuts. Ginkgo nuts have been cultivated for centuries in China, Korea, and Japan where they are a protein-rich addition to many diets (Crane 228). People in cities from other regions have been slower to adopt ginkgo nuts as a food source and often view the seeds as a novelty. This apprehension is understandable given the irritating compounds in the pulp around the nut and the small possibility of poisoning when people, especially children, eat too many ginkgo nuts at one time (Kajiyama et al.). Both of these risks can easily be mitigated by collecting and washing ginkgo nuts with gloves until the pulp is removed, then cooking seeds before eating them which substantially reduces the amount of ginkgotoxin. For some, these risks are prohibitive, but foraging ginkgo nuts invites participants to confront the toxicity of food production and may even encourage people towards new methods of sustainable harvesting which resist the excessive consumption associated with our current farming practices.

In recent years, foraging has become more popular in urban areas, broadening the foraging-based dimensions of the relationships between ginkgo trees and people in cities. One of the most recognizable online educators in foraging is Alexis Nikole Nelson, commonly known by her Twitter handle Black Forager. While creating short charismatic educational videos about foraging various species, Nelson regularly discusses the intersections among her Black heritage, her Indigenous heritage, and her practice of foraging (Mohtasham and Zomorodi). Beginning nearly as soon as Black people were enslaved in North America, the history of Black foraging in the United States is central to Nelson's work. At its earliest point, Black foraging was a way for

enslaved people to supplement the often-insufficient food they were expected to consume. This practice developed with knowledge learned from indigenous communities and was passed through generations, growing over time into a robust tradition of foraging in Black communities. Emancipation was rapidly followed by laws prohibiting the collection of food on public land, entirely criminalizing any food gathering for people who did not own land, a move that disproportionately affected Black people. This disruption, along with the prioritization of increasingly exotic foods as a sign of wealth in the first half of the twentieth century created a multi-generation break in the knowledge transfer of Black foraging through families. Since then, the continued dangers of being outside and Black in the United States, along with the association between foraging and poverty, have led to a dramatically diminished tradition of Black foraging (Greenlee).

It is in this context that Nelson's foraging is an act of resistance. Through the reproduction and redistribution of knowledge about foraging to an audience of over 4 million followers on TikTok, Nelson breathes life back into the tradition of Black foraging, inviting a diverse range of people into new relationships with plant-kin. These relationships are rooted in both Black and Indigenous traditions, require a more focused consideration of often overlooked species, and give people tools to find food outside the global food production system which is increasingly destabilized by climate change.

Queer Ginkgo

In one foraging video sharing her knowledge about ginkgo nuts, Nelson begins by calling ginkgo her favorite queer icon (*Ginkgo*). In her video, she introduces viewers to the sex switches which occur in some ginkgo trees. For unknown reasons, at unpredictable times, a formerly male ginkgo tree can begin producing ovules either on one branch or throughout the entire tree. Peter

Crane applies the term “leaky males” to this phenomenon of male ginkgo trees becoming female and postulates about the existence of “leaky females,” which have never been documented (Crane 65). Because the biological sex of ginkgo trees can only consistently be determined by the presence or absence of seeds, and because the male cones are so inconspicuous and short-lived, it is entirely possible that many ginkgo trees which are regarded as female also produce pollen but have never been documented[5]. Given the relative abundance of ginkgo pollen in the air, however, there may be a stronger evolutionary advantage for “leaky males” than “leaky females” (Crane 65).

In light of the impressive acts against female ginkgo trees, especially their outright gender ban in some places, the queerness of well-documented and unpredictable switches from male to female is even more stark. Ginkgo trees resist the binaries employed by urban planners and homeowners with their biological sex, subtly reminding humans that the experience of biological sex upon which gendered assumptions often rest does not apply to most life. The comment section of Nelson’s video is scattered with trans pride flags and comments about the representation of genderqueerness of ginkgo trees, but in the context of foraging, ginkgo’s queerness is more than representation, it’s also a subversion. By switching from pollen-producing to seed-producing in urban settings, ginkgo trees introduce new sources of food that were intentionally omitted by urban planners, serving as allies to growing networks of queer and racialized community-focused urban foraging initiatives.

[5] Very recently the genetic mechanism for sex in gingko was described, although this still presents difficulty in determining the sex of any given tree since ginkgo trees rely on a single gene to determine sex rather than an entire chromosome as it is in humans. No research has been published yet about the genetic mechanism for “leaky males” in Ginkgo. (Gong and Filatov)

Praxis in Ginkgo Nuts

An easy way to engage with the social history of ginkgo and explore new relationships with the plants around you is by harvesting ginkgo nuts for yourself. Ginkgo trees can be found in almost any large city in the northern hemisphere, especially in temperate areas, and trees that produce seeds will do so most years after they have reached maturity. One simple step-by-step procedure is as follows, but there are many different ways to collect and prepare ginkgo nuts:[6]

First, find a mature seed-producing ginkgo tree in your area. This will probably be easiest to do when seeds are coming off the tree in the fall and the nuts release their indicative smell. At Vassar, there is a large mature seed-producing ginkgo tree outside the College Center, near the Southeast corner of Main.

Second, make a plan to intentionally and respectfully harvest ginkgo nuts. During a drought year, it may be best to defer harvest until the next season if you can to give other non-human kin a chance to eat the fruit; they may struggle more than us to find food sources. After a strong growing season, carefully consider how many ginkgo nuts you will be able to consume or share to take only what you need. To be in a relationship with these species involves listening to their non-verbal messages, so be prepared to thoughtfully approach each tree, acknowledging kin's cues.

Third, when you are ready to harvest and have found seeds, it is important to engage in personal practices of gratitude and reciprocity. Many indigenous cultures offer models for honorable harvest, and there are even more non-indigenous practices of gratitude that can be employed, but engaging with a personal gratitude ritual resists the current estrangement of humans from other life and helps develop new food systems

[6] This list is a combination of a few different online resources including Nelson's Tiktok, Han's video, and my own experience (Han; *Ginkgo*).

which are central to mutual success (Kimmerer, *Braiding Sweetgrass*). In the absence of other habits, it is often recommended to leave the first fruits you see and never take more than half while harvesting. To harvest, pick the nuts up directly off the ground any time after they drop and squeeze the seed away from the pulp it is in. It is important to cover your hand with a used bag or glove since the pulp irritates human skin. Continue this process until you have collected enough separated nuts into a bag. This can also be done later in the year after the pulp has deteriorated to make the process faster, but in some urban spaces, waiting may not be feasible due to the regular clearing of perceived debris on the ground.

Finally, take the nuts back to a place where you can clean them with water. Rinsing them off with a powerful hose or washing them in a large bowl and changing the water often both work. Take care to not get large amounts of pulp directly on your skin. Rinse until they are pulp-free and keep them in a well-ventilated container until they are dry. From here you have cleaned ginkgo nuts that can be boiled or roasted and separated from their shell before eating.

One way to roast ginkgo nuts, and the one offered by Nelson, is to put them in a covered pot with oil and salt over high heat until the nuts pop like popcorn. After that, the translucent green nut is ready to be eaten. Sources disagree about how many nuts are safe to eat at one time before ginkgotoxin poisoning becomes a possibility; Nelson offers the conservative estimate of 8-12 nuts per day for adults and 4 for children. Many Chinese, Japanese, and Korean recipes include ginkgo nuts, but given the new worldwide range of ginkgo, it is likely that novel culinary uses for ginkgo may emerge and contribute to our appreciation for— and dependence upon—*Ginkgo biloba.*

Coming Out//Coming Outside

My love for plants extends as far back in my life as memory itself, both coalescing around hazy trips through my childhood yard to pick kumquats off three old stout trees. Each year, after months of sweet orange-scented air and heavy branches full of fruit, the small warm olive-shaped citrus fell and blanketed the ground, always far exceeding what we were able to receive. Kumquats were for tasting once (or twice) per year to see if I liked them yet/again, to throw around the yard with friends, to rake up, to dissect, to juice but never drink, to garnish the family Saint Patrick's Day meal, and to explore how a little fruitiness can change a child's life. My early experiences of the natural world were shaped by those trees, each season presenting a new host of observations and questions. Nestled in the branches of those knotted old citrus trees I learned how to learn from plants.

My earliest memories of queerness are not so picturesque and are much more difficult to locate. Perhaps it was in the media that I first caught glimpses of LGBTQ+ identity, or maybe the few gay people my family knew but never discussed tipped me off. Most likely it was from a pulpit that I first heard about queerness and its looming danger to all people. No matter where or how I encountered it, in my earliest experiences I was sure that queerness was to remain unexplored and outside the bounds of what I knew.

Long after moving to a new house and losing the company of those kumquat trees, my interest in plants was again piqued by my uncle when my parents and I visited him one summer afternoon. After tending a patch of land next to his driveway all year, he freely shared with us the ripest vegetables as we visited. What had been a collection of sprouts the last time I saw them was now a fully developed garden, putting fruits I knew nothing about into my hands. As soon as we got home, before my parents could get away from the door, I burst past my usual

over-composure to ask if I could have a little bit of space in our small yard to start a vegetable garden. I was overjoyed when they obliged. With a half-eaten radish still in hand, I knew deeply that what I had seen that night—the transformation of soil and water into plants that could produce such treasures—was something that I needed to view more closely, to try for myself, and to figure out.

Part of why we moved to that house was to downsize after two of my older brothers, Brett and Chris, moved out. In the kitchen of that house, I cried with my mother about queerness twice. Once when she told me that Brett had come out as gay, using such a somber tone that it put tears in my eyes. Then again when she told me in the same spot, years later, that Chris had come out as gay. By then her tone had become more matter-of-fact, lacking the grief she conveyed the first time, but my eyes were still wet with the budding realization that I might be the third in my family. Long before I could articulate how true it was, I feared that I might become like my brothers, the subject of mourning. I tried desperately for years to confine queerness to those two moments in the kitchen, holding it back with the shame and tenacity that most queer people know so well.

Those first few growing seasons were slow and did nothing to help explain the plant alchemy that mystified me at my uncle's. Each year I would meticulously spread a handful of seeds into the recycled pots on our patio, use a ruler to push them to the depth listed on the envelope, then water them carefully. The first signs of life were sprouts, most of which would rapidly reach to their left before hitting the soil dead, yearning for the sunlight that was deprived of them while growing along the northern wall of my house. Later I would learn to call this phenomenon etiolation, the pale and spindly growth process some plants adopt when there isn't enough light, but I couldn't interpret those cues from plants yet (Taiz). As the slugs came and

ate, I found myself outside at night trying whatever remedy I could as an 11-year-old to hold them off, defending the few remaining seedlings. In the second year, I learned that the soft yellow structures on my winding, nearly leafless tomato sprout were flowers, but only after they gave way to swelling green fruit. Each day I would take breaks from homework to make sure that my years of work had not been lost to a tragedy or bird, both equally likely in my mind. Eventually green turned to red, and I brought into the house a handful of cherry tomatoes. While far short of the advertised cultivar name 'super sweet 100,' those few tomatoes given to us that afternoon were the exact act of magic I had longed to recreate. With a depth of gratitude that comes after receiving gifts, I found my mother and asked her to try the tomatoes with me. Together we went to the sink, washed them, and each ate a small warm cherry tomato in silence.

For as reserved as I was, the first time I came out was as much a surprise to me as the person I accidentally came out to. As she often did, my eighth-grade bible teacher shared with me a chapter from one of her college textbooks that she thought I might find interesting. The chapter dealt primarily with theories of human sexuality and included an image of the Kinsey scale. Entirely stunned by the proposition that queerness might not be a binary alternative to heterosexuality but rather any number of experiences along a spectrum, I confided in her that I thought I might fall somewhere around 3 or 4, not realizing until later that an assertion like that constituted a form of coming out.[7] While trying to figure out exactly what I thought the self-score meant, I asked a few of my friends what they thought about it and found myself coming out to each that ranked themself anywhere above zero. What was at first an accident quickly became one of the foremost things on my mind, allowing me to explore terms, identities, and experiences that I wouldn't dare approach before.

[7] The Kinsey scale was initially intended to refer to sexual experiences, not identity, and was not intended to be used as a form of self identification, reinforcing the incredibly queer nature of this coming out. ("The Kinsey Scale")

Riding the success of those first few vegetables, and after realizing that the long thin stems were cries for more sunlight, I went to the Goodrich negotiating table and presented a long and winding plea for a few square feet in a brighter part of the yard. The southwest corner of our yard became my new personal classroom; there I learned about compost and the close resemblance of fungal mycelium to roots in a compost bin, what it means to live in a wash (it's hard to grow carrots in rocky soil), how lettuce seeds need to get colder in the winter than Southern California allows, how one artichoke plant will set seed into many once it's beautiful purple flower fades, how hard it is to grow most food in a subtropical desert climate, and how restorative it is for me to have my hands in soil. My father and I would spend select afternoons weeding the garden and making plans for the next growing season, setting roots into the soil we lived on. Somewhere along the way I lost my zeal to compete with my neighbors' tomato harvests and got so absorbed in gardening that I stopped noticing what became food and what didn't. While my crop yield remained meager year after year, never enough to cook with and rarely enough to taste, the process of growing sustained me.

Coming out to my parents and siblings was a longer and much more difficult process than coming out to friends. Chris was first, as the oldest and most recently out in our family, I confided in him what I was feeling over text one evening. Fortunately, he was able to help me disentangle and name the feelings of anxiety and queerness I had come to accept as the same by telling me about his own experiences of mental health and non-heterosexual identity. Years later I decided to christen my queerness by confiding in my mother while driving home from a Boy Scouts meeting. As soon as we arrived home, she asked me to tell my father, and we all began to share the nagging fear that had loomed over me since I started at my conservative christian high school. We all wondered what exactly queerness could mean for my education.

After gardening for several years, I received an orchid as a gift, beginning the slow creep of my love for plants into the house. Over time my small collection of indoor plants grew. What was once enough to fit on a small end table got so large it needed to move onto my desk. Eventually, my desk was too small and gave way to a dedicated set of shelves next to my bedroom window, but with each additional plant, my love for gardening got further away from me. Watering became less frequent, I replaced annuals with perennials, and hardy plants were soon the only survivors.

In the spring of my junior year at high school, I got expelled for being gay.[8] The formal process began when two teachers heard a rumor from another student that I was queer. They confronted me, pleading for an honest answer about my sexuality, then seemed shocked when I came out. That meeting progressed into a meeting with the principal, which gave rise to my departure from the school. In an instant, coming out radically reconfigured my life.

[8] The applicability of the term expelled in my situation is ambiguous. No disciplinary action exists on my transcript, but I was asked to transfer out at the end of the academic year or immediately begin conversion therapy. I opt to use the term expelled in almost all contexts to convey the relative lack of choice and institutional nature of the action.

Coming Forward

The short autoethnography before this, "Coming Out//Coming Outside," began as an attempt to write parallel sections recounting my experiences of discovering my love for queerness and discovering my love for plants. At its inception, I hoped that writing those two experiences together would expose how the transdisciplinary intersections of queerness and plants came to be central in my life all while generating theoretical frictions which could be further explored in this section. As I was creating the piece, it reached what felt like its natural conclusion far earlier than I expected; both stories ended while I was in high school, long before I developed a strong sense of queerness or botany. This thesis is my continuation of those stories, relying on the fact that both inflection points—getting expelled for queerness and losing interest in ornamental plant cultivation—advanced in such a way that I am now writing a thesis on the topic of queer botany. This chapter takes up that project more narrowly by focusing on a few of the specific theoretical questions which emerged in the previous section, including a closer interrogation of binaries and a turn to pleasure that rejects the very questions driving this thesis. Queer botany is so much more pleasurable as a destabilizing aspiration than a cohesive vision.

Doubly Outside

One of my favorite ways to approach queer thinking is to find the unquestioned binaries in my reasoning for any given argument and interrogate them relentlessly. Through this classically queer move, seemingly stable categories can be opened up and interrogated with ease. By way of example, I'll return to the last chapter. While writing my own experience, I was inclined to view my early encounters with plants and my early encounters with non-heterosexuality as separate, not necessarily in opposition to one another, but entirely distinct. By indulging this boundary while writing, I obscured the ways in which the two experiences

were inextricable. A less regulated approach could have more easily incorporated vignettes about my use of flowers to avoid and subvert spaces designed to enforce masculinity throughout middle- and high school, but the approach I used would render such stories out of place. The ability of those untold queer and botanical stories to collapse the categories of memories I reinforced in my storytelling is a form of queerness that queer botany benefits from. This example illustrates one form of destabilizing queer retrospection which I particularly appreciate.

A more widespread binary that has been written about concerning queer scholarship is the "inside" and "outside" opposition. Diana Fuss dedicated the opening chapter of *Inside/Out* to exploring this binary and its foundational relationship to the heterosexual/homosexual binary. Viewed through the inside/outside dichotomy, heterosexuality can be read as the inside position of sexuality which is visible, speakable, and culturally intelligible while homosexuality can be viewed as the outsider that exists, in part, to reinforce the overall structure of the hierarchy[9]. While discussing the importance of inside/outside dynamics to hetero/homo relations, Fuss writes:

> Many of the current efforts in lesbian and gay theory, which this volume seeks to showcase, have begun the difficult but urgent textual work necessary to call into question the stability and ineradicability of the hetero/homo hierarchy, suggesting that new (and old) sexual possibilities are no longer thinkable in terms of a simple inside/outside dialectic. (Fuss 1)

She argues that lesbian and gay theory has worked to destabilize both the direct application of inside/outside to sexuality and the hierarchy articulated through that application. Said more plainly, queer theory has challenged both the idea that heterosexuality is better than

[9] This articulation of inside is derived from her explanation of "out" queer people. Fuss helpfully acknowledges that openly queer people inhabit more interior positions after coming out since open queerness is easier to comprehend and articulate in cultural understandings of sexuality (Fuss 4).

homosexuality and the concepts of “inside” and “outside” that support that hierarchy. Of the queer pursuit to erode these binaries, Fuss writes, “But one can, by using these contested words [like inside, outside, heterosexual, and homosexual], use them up, exhaust them, transform them into the historical concepts they are and have always been.” (Fuss 7) Since we cannot remove ourselves from inside/outside or hetero/homo binaries, Fuss concludes her chapter by encouraging scholars invested in the transformation of these binaries to “use them up.”

“Coming Out//Coming Outside" is in part my attempt to use queer botany to play with and transform the inside/outside binary underpinning hetero/homosexuality. On the most basic level, the stories I tell represent a view of the outside from the more interior position I occupy now. By recounting my experiences with botany and queerness that occurred before they gained legibility through formal education and coming out as queer, I can present a vision of queer botany that is somewhat more exterior than most of what I’m writing now. In this analogy, the queerest botany I have done was driven by unhindered curiosity, blissfully unaware of the pursuits for credibility and legibility that are so central to science. By articulating those experiences through creative storytelling, I hope to present a version of queer botany that is not centrally invested in making it inside or being legible. The term outside, in the context of queer botany, gains a double meaning. Both physical and social outsides are relevant, and queer field sciences are positioned to play with, and use up, the idea of the outside with renewed vigor. In this expanse of outside accessible to queer botany, I wonder what becomes possible and what boundaries remain to be discovered and pushed. Perhaps it is this outside that invites creation at the overlap of queer studies and botany[10].

[10] Rural queer studies is positioned to make a similar intervention about “outside”, and to some extent my affinity for plants helps align my experience of queerness more closely to rural queers than most other queers from suburban spaces. My thinking about rural queerness has been substantially informed by *Queering the Countryside* (Gray et al.).

Erotic, Pleasurable Rubs

In the introduction of this thesis, I explained the shift in my thinking from the question "What is queer botany?" to, "What vision of queer botany am I making?" While this shift has undoubtedly shaped my thesis as a whole, in the context of "Coming Out//Coming Outside" I can raise another question that continues to trouble me. I often wondered not just what vision of queer botany I am making, but what unique possibilities, if any, exist in the friction created between botany and queer studies. While holding these two fields with their unique practices and histories in such close proximity, it seems that they might inevitably rub in an exciting way. The doubly defined outside is one example of one possibly exciting friction, as is the consideration of power in botanical nomenclature, but I find immense pleasure in anticipation of more rub-induced frictions between queerness and botany. This pleasure troubles me not because I am uneasy about my investment in both queerness and the study plants, but rather because I am creating towards the extinction of that anticipation. By either defining queer botany or curating any particular vision of queer botany, even one as locally situated and qualified as this, I inadvertently map away the exact ambiguity that drew me to this intersection. The aforementioned outsiderness of queer botany, which is a great pleasure of mine, is rendered legible, inside, and dull in my attempt to make it any one thing in particular.

The beginning of Judith Butler's essay "Imitation and Gender Insubordination" uses the troubling application of lesbian identity to articulate a similar type of pleasure. Pages before developing their theory of gender performativity, they write:

> I'm permanently troubled by identity categories, consider them to be invariable stumbling-blocks, and understand them, even promote them, as sites of necessary trouble. In fact, if the category were to offer no trouble, it would cease to be interesting to me: it is

> precisely the *pleasure* produced by the instability of those categories which sustains the various erotic practices that make me a candidate for the category to begin with. (Butler)

By way of disclaimer, Butler simultaneously acknowledges their trouble with identity categories generally—and the application of lesbian identity to them specifically—while attributing that trouble to the qualities which guide people to apply the label to them in the first place. In my pursuit of the frictions created by queer botany, I found myself succumbing to the type of identity categories Butler is troubled by, and at times moving away from the pleasures that make me a candidate for the category of queer. The vision of queer botany I aspire to foster is not a measured and regulated disciplinary expanse, but rather an aspiration teeming with pleasure. This aspiration is for more than human queerness that doesn't only incorporate plants when applicable but grows roots with them in inconvenient ways, enjoying the pleasure of instability while seeding future instability whenever possible.

Audre Lorde's view of erotic as not simply sexual sensation, but also creative, self-affirming, and anti-patriarchal fullness can helpfully frame another dimension of my attraction to queer botany and further expand Butler's quote (Lorde). In her essay "Uses of the Erotic," Lorde uses her poetry to describe the erotic as "a measure between the beginnings of our sense of self and the chaos of our strongest feelings." (Lorde 54) Lorde frames the erotic as a fullness of feeling in one's practices which can be a source of power, connection, and fulfillment throughout their life. Outside of the bedroom, the erotic empowers us to push for more joy in our lives in ways that go against simple pursuits of utility. This expanded view of the erotic can be reconnected to my argument by way of an example: I am often overcome by an incredible sense of fullness while my hands are covered in soil at the service of plants. My pleasure in aiding the growth of photosynthetic life is not sexual, but it is erotic in both measure of joy and connection

to life. While sowing seeds, caring for plant communities, and surveying forests I find myself, as Lorde put it, "[giving up] being satisfied with suffering and self-negotiation, and with the numbness which so often seems like their only alternative." (Lorde 58) It is in my connection to plants that I find a sense of fullness to rival or exceed that which I find in queerness. Not only are plants teachers in how to grow more livable worlds, but they are also actively making the world we share more livable, reminding me that contemporary relational erotic connections are seeds for radical change. This erotic connection to plants is one of the "various erotic practices that make me a candidate for the category" as Butler describes. My queerness can be seen in the pleasure I experience when I am intimately connected with plants, both in the erotic qualities of the connection and in its inclusion of non-human life. By recognizing plants as a center for pleasure, human-focused queerness is destabilized, and the queer pleasure of that instability can, to some extent, be realized.

By denouncing pursuits of defining, creating, and mapping queer botany, "Coming Out//Coming Outside" is an exercise in a similar queer destabilization. Rather than reinforcing the rigid categories both queerness and plant life are so often subjected to, this is an attempt to let the pleasurable and erotic rubs between botany and queerness remain outside, and whenever possible outside the inside/outside hierarchy too.

Me, The Trees, and Our Gay Little Eden

Plants, like queerness, suggest new ways of being, living and loving. They are bisexual, they are trans, asexual, polyamorous, hermaphrodite and gender fluid. They are other; they are in between, alive like animals but seemingly still as minerals.

- "Plants and Queerness" Will Dwyer, Vassar Class of 2020

To conclude this thesis would be to undo some of the opening up I've attempted in this project. To call for more, however, while acknowledging the abundance of help I've received along the way, feels like an incredibly appropriate way to bookend this lunge into the Planthroposcene. The penultimate step to grow life in the Planthroposcene that Natasha Myers writes about in "How to grow liveable worlds' is to garden against Eden (Myers, "How to Grow Liveable Worlds"). Situated directly before her call to make art for the Planthroposcene—which I used to frame the artistic portions of this thesis—is her call to help plants grow. Gardening against Eden is the radical effort to support plant growth everywhere as a gardener, learning lessons about capitalism and colonialism from plants while they push through infrastructure and freely make use of land overlooked by humans. By combining those last two steps, this thesis can be (re)viewed as a metaphorical garden against Eden where I have tried to support plant growth in queer and botanical ideological landscapes wherever plants may volunteer.

The particular stories I have written about this garden represent only a small subset of the seeds which germinated and started to take root. The profound rejection of biological individuality seen through lichen, the tenacity of "Invasive species," and the decentralized nature of plant growth all remain unwritten participants in this garden which freely sprouted and hybridized their way into the ideas I did write about. There is, of course, also the unseen mycorrhizal network spreading below the soil of this metaphorical garden, connecting the

emerging plants through our fungal kin. In this anti-Edenic garden where everyone is encouraged to grow, we also have an opportunity to avoid the type of intense categorization which is responsible for so many of our current ideological limitations. The photosynthetic participants in this garden of queer botany which I remain unaware of are no less important than the few plants I have chosen to characterize, and the recognition of these undescribed participants has often given me pause while writing. The possibility of letting them remain unnamed while relishing in their gifts has, at times, made me want to leave this garden altogether before accidentally changing anything, but I have yet to find a fence or boundary through which to leave. I know that I must be accidentally stepping on some non-human kin when I'm so often returning to the same few plant teachers, but I have hope that this trampling might make room for new plant teachers to emerge. In moderation, this garden against Eden might situationally sustain some of us, and with any luck, seeds will travel with us as we move between Edenic gardens of all sorts (physical and otherwise) and this garden of queer botany. Far from utopian, these seeds from queer botany can be planted in the here and now, breaking through the structures we have built to understand plants, inviting us to conspire with our photosynthetic kin to grow a more livable world.

I am incredibly grateful to the people who have come with me to this garden, not just human advisors and friends, but also non-human teachers. Between reading, smelling flowers, and taking the time necessary to let seedlings become established in new places, I appreciate the patience, kindness, and excitement in plant growth shared with me throughout this process. This project is an insufficient expression of my gratitude to the people and plants that have made Vassar all that is to me, and my gift back, in a sense, to the legacy of queer botany on this campus which has often sustained me.

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