Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

_____ _____

Perry Guevara Date

Inhuman Depressions: A Cognitive Ecology
of Holes in Early Modern English Literature

By

Perry Guevara
Doctor of Philosophy

English

_____

Patricia Cahill, Ph.D.
Advisor

_____

Deboleena Roy, Ph.D.
Committee Member

_____

Ross Knecht, Ph.D.
Committee Member

Accepted:

_____

Lisa A. Tedesco, Ph.D.
Dean of the James T. Laney School of Graduate Studies

_____

Date

Inhuman Depressions: A Cognitive Ecology of Holes in Early Modern English Literature

By

Perry Guevara
M.A., Georgetown University, 2009

Advisor: Patricia Cahill, PhD

An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in English
2016

Abstract

Inhuman Depressions: A Cognitive Ecology
of Holes in Early Modern English Literature
By Perry Guevara

"Inhuman Depressions" plumbs the affective depths of subterranean life in sixteenth and seventeenth-century literature to argue that feeling is coextensive with the natural world. Minded states are enacted not only by the brain but also by a neural body that innervates its environment. The goals of this project are twofold. The first is a sustained engagement with cognitive science, ecocriticism, and queer theory to consider the ways in which "depression" functions not only as a figure of negative affect but also as a concave space of surprising ecological depth. Within an early modern cosmology where Galenic humors materialized emotions, matters of the brain became entangled with earthly matter. The second goal is to create discursive space for often overlooked nonhumans—stones, plants, insects, vermin—who inhabit these earthly depressions and who, in spite of their small size, perform vital roles within a larger cognitive ecology. I therefore take up the figure of a "hole" as an environmentally cosmopolitan site where humans unearth their nonhuman allegiances and where emotion is expressed even across the species divide. Through readings spanning the period from Shakespeare to Milton, I offer an interdisciplinary account of the ways in which select scenes of feeling instantiate affective ecologies where emotions, that, on the surface, may appear intrinsically human and therefore anthropocentric, become decidedly inhuman. Chapter one investigates the cognitive and environmental dimensions of depression in Shakespeare's *Hamlet*. My second chapter proposes that Milton's pharmacological knowledge of medicinal plants, coupled with his monism, results in cross-species eroticism predicated on anatomical similitude in *Paradise Lost*. Chapter three turns to behavioral biology to consider possibilities of insect emotion in *Titus Andronicus* and Dekker and Massinger's *Virgin Martyr*. The final chapter explores bodily holes as sites of indeterminate sexuality in *Othello* to argue for a concept of transitional sex that is attentive to movement, opacity, and nonhuman materiality.

Inhuman Depressions: A Cognitive Ecology of Holes in Early Modern English Literature

By

Perry Guevara
M.A., Georgetown University, 2009

Advisor: Patricia Cahill, PhD

A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in English
2016

Acknowledgements

"Inhuman Depressions" owes its life, as do I, to so many friends and colleagues. First and foremost, I extend my thanks to Patricia Cahill for serving as my advisor and for seeing the dissertation through to its conclusion. I am also most grateful to my committee members, Deboleena Roy and Ross Knecht, who mentored my progress every step of the way. Paul Kelleher and Mario DiGangi deserve credit for their continual support and encouragement throughout the writing process. Helen Mayberg deserves special recognition for inviting me to work in her lab and to witness the very edge of neuroscience research, as does Yoland Smith for bringing me back into the scientific fold. To those who read and responded to my work, sometimes delicately and sometimes incisively, I thank Roya Biggie, Bellee Jones-Pierce, Dori Coblentz, McKenna Rose, Amy Elkins, Aaron Goldsman, Richie Hofmann, Steven Swarbrick and, most of all, Steven Beck. To Keith Botelho and Joseph Campana, many thanks for your input on Chapter 3, and to Will Stockton and the readers at *Early Modern Culture*, your feedback on Chapter 4 proved invaluable. To those faculty members at Emory who saw me through to the very end, I thank Jonathan Goldberg, Laura Otis, Benjamin Reiss, Shoshana Felman, Elizabeth Goodstein, Nathan Suhr-Sytsma, Valérie Loichot, James Morey, Martine Brownley, Sari Altschuler, and Catherine Nickerson. Over the years, many mentors at a range of institutions have sparked my intellectual curiosity and, for that, I express my gratitude to Richard Rambuss, Hank Lazer, Ricardo Ortiz, Mimi Yiu, Lena Orlin, Dana Luciano, M. Lindsay Kaplan, Nancy Campbell, Robert Halle, and Guy and Kim Caldwell. To my family, my gratitude is simply not enough.

Several institutions have generously sustained my research, including Emory's Laney Graduate School, the Folger Shakespeare Library, and the Scholars Program in Interdisciplinary Neuroscience Research. I have also been fortunate to share my work at a number of venues including the Shakespeare Association of America, the Society for Literature, Science and the Arts, the South Atlantic Modern Language Association, the Washington DC Queer Studies Symposium, the University of North Carolina—Chapel Hill, the Virginia Polytechnic Institute, the Hudson-Strode Program in Renaissance Studies at the University of Alabama, and the Early Modern Interdisciplinary Group at the City University of New York—Graduate Center. All of these, in sum, were my lifeline as I explored, for many years, the inhuman depressions of early modern literature.

TABLE OF CONTENTS

INTRODUCTION

THEORETICAL SURROUNDINGS: DIRTY HOLES AND SCIENCE'S TROPOLOGY

"Wherever he saw a hole he always wanted to know the depth of it."

—Jules Verne, *Journey to the Center of the Earth*

"Inhuman Depressions" begins with a very simple premise; depression is inhuman as much as it is inhumane. The chapters of this manuscript plumb the negatively affective depths of subterranean life in sixteenth and seventeenth-century drama and poetry to argue that feeling is coextensive with the natural world.[1] My goals are twofold. The first is a sustained engagement with cognitive science, ecocriticism, and queer theory to consider the ways in which "depression" functions not only as a figure of negative affect but also as a concave space of surprising ecological depth. Within an early modern cosmology where Galenic humors materialized emotions, matters of the brain became entangled with earthly matter. The second goal is to create discursive space for often overlooked nonhumans—dirt, plants, insects, vermin—who inhabit these earthly depressions and who, in spite of their small size, perform vital roles within a larger cognitive ecology. I therefore take up the figure of a "hole" not just as a concept for lack but also as an environmentally cosmopolitan site where humans, alongside such lowly creatures, share in the worldly experience of emotion. These affective crossings, I believe, are also indelibly queer. Through readings of texts spanning the period from Shakespeare to Milton, I offer an interdisciplinary account of the ways in which select scenes of feeling instantiate cognitive ecologies, where emotions that, on the surface, may appear intrinsically human and therefore anthropocentric become decidedly

inhuman. In this brief introduction, I spell out two different narratives meant to illustrate the promiscuous conjugations of such interdisciplinary thinking. The first reflects upon the recent critical encounter of strange strangers, the unacquainted yet ever-approaching fields of queer theory and ecocriticism. The second describes the uneasy meeting of neuroscience and literature, what some critics now refer to as cognitive literary studies.

The subtitle to this introduction takes its cue from a comment made by an Alabama lawmaker, who, when asked what to do with books by "gay" authors like Walt Whitman, Oscar Wilde, and Tennessee Williams, responded, "I guess we dig a big hole and dump them in and bury them." In 2004, Gary Taylor reported in *The Guardian* that state representative Gerald Allen had proposed a new law (HB30) that would ban Alabama public schools, universities, and libraries from purchasing books "that recognize or promote homosexuality as an acceptable lifestyle," so to "protect Alabamians" from "moral destruction." In his interview with Allen, Taylor wondered if he would go so far as to ban even the most canonical of authors:

> I ask [him] if he would insist that copies of Shakespeare's sonnets be removed from all public libraries. I point out to him that *Romeo and Juliet* was performed by an all-male cast, and that in Shakespeare's lifetime actors and audiences at the public theatres were all accused of being "sodomites." When Romeo wished he "was a glove upon that hand," the cheek that he fantasized about kissing was a male cheek.

To which Allen gave the roundabout answer, "I expect details like that to be worked out at the committee stage. Literature like Shakespeare and *Hammet* [sic] *could* be left alone" (emphasis mine). That cross-dressing, man-loving Shakespeare and misspelled Hamlet

could escape the same fates as their literary brethren says more about Shakespeare, I think, than it does about Allen's homophobic legislation. That is to say, even at his gayest, Shakespeare only has one foot in the proverbial grave; his canonicity is his lifeline. Yet, as Madhavi Menon notes in *Shakesqueer: A Queer Companion to the Complete Works of Shakespeare*, "[B]eing canonized also deprives a text of agency, containing what is potentially too disturbing to be contained" (2). Allen was banking on it. Menon continues, "The conservative impulse to venerate Shakespeare stems from the same source as the desire to ignore his queerness."

At the time of the bill's introduction, I was a sophomore at the University of Alabama and, needless to say, disconcerted that the quality and scope of my collegiate education might be compromised by government censorship. I remember attending a protest, organized by an intrepid group of creative writing students, on the steps of the Amelia Gayle Gorgas Library, where shovel-toting protestors signed a petition urging lawmakers to vote against the bill and where community members read excerpts from the likes of Marcel Proust, Allen Ginsberg, and Virginia Woolf over a megaphone. Why even Alice Walker, whose Pulitzer-winning *The Color Purple* was to be banned, made a brief appearance and spoke to the crowd, "Alabama has made so much progress. Don't go backwards now." Lucky for her (and us), the bill died in committee two weeks later.

Although representative Allen and I disagree about the politics of censorship, I must admit that he was onto something or, better yet, *into* something suggestively deep. Looking back, I have become increasingly curious about Allen's hole as a space to "dump" queer and culturally unsavory things. To me, holes are already somewhat queer, even without the public library copies of Christopher Marlowe's *Edward II* and Truman

Capote's *Breakfast at Tiffany's*. Holes are both metaphorical and material sites of unknowability, crevices from which frightening things emerge and where what goes in might not come out. The *Oxford English Dictionary* provides us with diverse meanings for the word "hole," including a "hollow place" or "pit" in a surface, a "hiding place," a "secret room," and even a bodily "cavity" such as an eye socket. That's not to mention another bodily hole that doubles as vulgar slang for an irritating and contemptible person. Just as Allen considered burying gay Shakespeare in a hole, I want to think about other queer things that have always inhabited holes—not just bodily holes like mouths or rectums, or even archival holes that leave incomplete histories—but holes in the dirt, where worms and sundry critters reside, where plants put down roots and grow toward the sun.

A hole—or a depression, if you will—is an apt figure for an intellectual exercise that joins queer theory to ecocriticism because it locates our thinking underground, not just in the underground subcultures of queer art, politics, and sex but quite literally in the subterranean (*sub* meaning "below," *terra* meaning "earth"), in the slime beneath our feet, pincers, and paws. Because of its definitional polyvalence, the term "hole" allows me to shift among different semantic registers—erotic, ecological, cultural—in turn helping me to transport concepts across disciplinary borders, troubling the split between metaphor and materiality, and digging even more holes as shared cosmopolitan spaces where to dwell in intimate cross-species unknowability. And I can't help but think that Allen's "hole"—his metaphor for literary censorship—might have been dug into the red clay of Alabama's landscape, concealing Shakespeare with the juvenile junebugs and root-eating cicadas. While Allen never had the chance to bury Shakespeare, I've come to

realize that maybe a hole isn't such a bad place for him. That is to say, imagining Shakespeare and other early modern authors in an ecologically rich depression encourages me to think about the underground and perversely intimate ecosystems of early modern literature. "Inhuman Depression's" entanglement with queer theory, ecocriticism, and science, while spurred by literary, regional, and activist narratives that cross the precarious plight of homosexuality in the American South with the comedic and sometimes tragic homoerotics of the Elizabethan stage, facilitates the viability and vitality of the diverse yet too easily ignored erotic lives of the literature's holes.

Perhaps the biggest hole to which I must attend is self-made. Undertaking an interdisciplinary project in a historical literary period that has, until recently, received little attention from ecocritics presents its challenges. Most of the ecocritical projects of the 1990s and early 2000s are limited in their historical and literary scope, investigating decidedly modern archives and rarely glancing at early modern or medieval texts and ecosystems. "Inhuman Depressions," aiming to articulate a queer ecology of early modern English literature, historically inflects the symbiosis of literary study that has as of yet been under-theorized in relation to early literary periods. "Until recent years," Lynne Bruckner and Dan Brayton note in *Ecocritical Shakespeare*, "environmental literary scholarship concentrated primarily on nineteenth and twentieth-century writers who celebrated nature as a pastoral retreat and a space of personal meditation" (3). Studies on early modern animals, such as those by Laurie Shannon, Bruce Boehrer, and Erica Fudge, have paved the way for ecocritical projects in the period, especially for those scholars theorizing the porous membranes between early modern humans and nonhumans. Gail Kern Paster, for instance, theorizes a "shared terrain of the affects"

between humans and animals, while Dympna Callaghan tackles questions of human-animal discourse by bridging earlier theories of Renaissance sodomy, including those put forth by Jonathan Goldberg in *Sodometries*, to the political consequences of bestiality, considering not only its criminality but also its aesthetic effects on sixteenth-century epyllia (136). Further elaborating these concepts, Richard Rambuss entertains the pleasures of animal sexual role-playing, including furry fandom and pony-play, in drama from the period. Shifting our focus from animals to plants, Jean Feerick has published on early modern botany and race; moreover, in *Wooden Os: Shakespeare's Theatres and England's Trees*, Vin Nardizzi connects theatrical practice to woodland environments. And Brayton, in *Shakespeare's Ocean*, steps off the land and plunges into the salty fluid that covers the vast majority of our planet as he reads representations of water in Shakespeare. Few studies, however, have explicitly combined the critical insights of ecocriticism and queer theory to read early modern English literature.[2]

Proposing a queer ecological project is to reference a field that, according to Timothy Morton, does not exist—or rather, does not *yet* exist (273). And while ecocriticism appears to be gaining momentum in early modern literary studies, some fear that queer theory might be losing traction. Heather Love reports suspicions that "queer theory is going downhill" (258), and while Jack Halberstam diagnoses the field's perceived anemia, "Others characterize it as fatigued or exhausted of energy" (361). After *Series Q* switched off the press, hit the lights, and shuttered its doors, many were left wondering, "What now? What will become of queer theory?" Does queer theory, to borrow Lee Edelman's coinage, have *No Future*? Even a year before its closure, the influential series prophesied its end by positing the question, *After Sex?*, in a collection of

essays written by the field's leading scholars. Michael Warner then asked readers of *The Chronicle of Higher Education* if this might be, in fact, "the end of Queer Theory?" The general consensus, at least from those within the field, was that, no, this is not the end. Eve Sedgwick's passing and the subsequent discontinuation of *Series Q* do not mark the end of a decades-long intellectual endeavor that produced and continues to produce real sociopolitical effects in the lives of queers; instead these events should prompt us to meditate on the past and possible futures of queer theory and where we might see ourselves in them. Queer theory, at present, remains a diverse enterprise both within and outside the academy, encompassing numerous disciplines and disparate historical periods. And while it may resist stable categorization as a proper field of inquiry, queer theory, as Warner notes, is "rich enough to have many branches, some different enough to be incommensurate with one another."

One such crook in a "branch" (a fitting metaphor for an enterprise concerned with trees and other such green things) is what we might call "the queer ecological turn." It is here at the convergence of queer theory and ecocriticism—what Urusla Heise describes as a field committed to "the scientific study of nature, the scholarly analysis of cultural representations, and the political struggle for more sustainable ways for inhabiting the natural world" (506)—where I situate "Inhuman Depressions." Historically, queer theory and ecocriticism have rarely been thought together. Morton complains that the field of ecocriticism, at first glance, seems an unfriendly and toxic terrain for exploring questions of queerness because American ecocriticism vectors "masculinity memes" such as "rugged individualism, a phallic authoritarian sublime, and an allergy to femininity" (274). To the other extreme, ecofeminism, born from the feminist separatist movement, is

wedded to a frightening version of biological essentialism predicated on binary difference. Yet it is my opinion, as it is Morton's, that queer theory and ecocriticism put aside their differences and strike up a conversation. Queer theory can benefit from ecocriticism, as can ecocriticism from queer theory if both are willing to extend themselves into the risky and excitable interstices of rival disciplines. Doing so may require revising and reconfiguring reading practices through which epistemologies—both queer and ecological—are produced, but it is my hope that symbiotic readings will lead us to the underexplored interdisciplinary borderlands where humans and nonhumans, strangers and shape-shifters, discover unexpected intimacies.

Catriona Mortimer-Sandilands, Bruce Erickson, and Morton have spearheaded the task of sketching possibilities for queer ecological projects. In their introduction to *Queer Ecologies: Sex, Nature, Politics, Desire*, Mortimer-Sandilands and Erickson tell us that:

> The task of a queer ecology is to probe the intersections of sex and nature with an eye to developing a sexual politics that more clearly includes considerations of the natural world and its biosocial constitution, and an environmental politics that demonstrates an understanding of the way in which sexual relations organize and influence both the material world of nature and our perceptions, experiences, and constitutions of that material world. (5)

Mortimer-Sandilands and Erickson are largely preoccupied with the politics of queers inhabiting environmental spaces. Moreover, they are interested in the ways in which the natural environment is socially constituted, "Modern nature-spaces have been deeply influenced by institutions and practices that have assumed and imposed particular sexual

relations on the landscape. In turn, particular kinds of natures have been cultivated in order to produce and promote particular forms of sexual subjectivity" (12). They cite, for example, how American masculinity became attached to notions of wilderness while homosexuality, in contrast, connotes urbanity. The twentieth century witnesses the heterosexualization of the environment: the social production of outdoor spaces that were amiable to straights but hostile to queers.

Queers are not only forced outside of nature; they are "against nature." Considering Edelman's famous injunction to "fuck the child" as the symbolic center of the heternormative sociopolitical order, perhaps queers should follow suit and "fuck nature" too. In fact, it could be argued that they already have—that they've been doing it for decades. Mortimer-Sandilands and Erickson turn to city parks as sites of queer resistance. "Parks," they write, "were created in part as places in which heterosexual masculinity could be performed and solidified … through rigorous, health giving recreation" (13). As such, city parks were also disciplinary spaces in which certain activities were permissible and others were not. Among those prohibited was public gay sex, an illegal and erotic re-appropriation of urban nature through which both the sexual and the environmental defy heterosexist regulation. In this sense, "fucking *in* nature" is a way to "fuck nature." Public park sex, "as a sort of democratization of natural space," sometimes even "galvanized gay communities to take environmental action" (26). For example, following the 1969 Stonewall riots, New York City authorities deforested large portions of Kew Gardens in Queens in an effort to curb public gay sex. Already incensed by city-sanctioned police violence at Stonewall, queer New Yorkers organized the first gay liberationist environmental group, Trees for Queens, to restore the park's devastated

fauna. Being "against nature" does not mean "anti-environmental"; in fact, Trees for Queens demonstrates that the reverse is true. Disidentifying the negativity of the equation "queer equals unnatural," "against nature" becomes a political position from which to resist the production of outdoor spaces and bodies in accordance to heteronormative imperatives. A queer ecological politics, Mortimer-Sandilands and Erickson tell us, therefore requires "a transgressive and historically relevant critique of dominant pairings of nature and environment with heteronormativity and homophobia, in order to outline possibilities responsive to these relations" (22). Following suit, "Inhuman Depressions" aims to revive the activist sensibilities of early queer theory and LGBT politics not only by bringing current queer and environmental concerns to bear upon early modern texts but also by allowing the texts and the perverse intimacies of their ecosystems to instruct our interactions with the natural world. Far from being "unnatural," such reading practices sustain the proliferation of environmental sexes and the viability of diverse sexual lives.

Morton makes similar claims in his *PMLA* essay "Queer Ecology." On the heels of his ecocritical project, *Ecology Without Nature*, Morton begins by entertaining a non-existent field—queer ecology—which he describes as a "Frankensteinian meme splice" informed by the seemingly incompatible fields of queer theory and ecocriticism (273). He argues that, differences aside, the two share a simple and common goal: intimacy with other beings. Taking his queue from the deconstructive vein of queer theory, Morton points out that ideologies of nature, like those of gender and sexuality, are structured on binary logics of inside/outside and inclusion/exclusion (i.e. nature/culture, human/animal, man/woman, gay/straight). He chides the field of ecology for not getting in touch with its

biological non-essentialisms, a task that queer theorists undertook twenty-plus years ago as they destabilized so-called "natural" categories like "man" and "woman." Queer theory, too, has come up short in its failure to think beyond human sexualities in any sustained manner. Despite their respective shortcomings, both queer theory and ecocriticism might discover sympathies with emergent strains in non-essentialist biology. The interrelated fields of evolution, genetics, virology, and neuroscience abolish boundaries between organisms by exposing their contingencies. That is to say, life itself is the ongoing process of complex DNA code-sharing across bodies, time, space, and species. Queer ecology then, according to Morton, proposes that all "life-forms constitute a mesh, a nontotalizable, open-ended concatenation of interrelations that blur and confound boundaries" (275). This mesh is biodiverse as well as wildly erotic. Sexualities are prolific; not only do they exist within species but they also multiply between them. Queer ecology is the cross-pollination of queer theory and ecocriticism; ecocriticism allows queer theory to embrace intimacies with nonhumans (not just persons who are rendered nonhuman as they are excluded from the rights and privileges of heteronormativity), while queer theory challenges ecocriticism to critique its own assumptions about gender and to take pleasure in the too often ignored erotic, nonhuman lives of ecosystems.

The challenge implicit in Morton's argument is that aspiring eco-queer scholars in the humanities bone up on their sciences. In order to make an honest turn to ecology, "Inhuman Depressions" takes seriously both contemporary and historical fields committed to understanding natural environments and their inhabitants. Up to this point, the sciences have been most faithful to the task. Greg Garrard goes so far as to suggest

that scholars in the humanities are *scared* of science: "The humanities as a whole are still at the stage of having to overcome biophobia that has afflicted our research for so long; the bridges being built towards the biological sciences are therefore appearing unsystematically" (xix). Unsystematic as my attempt at bridge-building might be, I attempt to engage the sciences, bringing my background in neuroscience and my experiences conducting research in neuropsychiatric and genetics laboratories to bear upon queer ecological readings of early modern texts. Science studies, especially neuroscience and feminist science, provide additional critical contexts for "Inhuman Depressions." Throughout the manuscript, I refer to studies, empirical as well as theoretical, from various fields in the sciences, as I also interject personal anecdotes from my time working in biomedical research.

When I was in the early stages of conceptualizing "Inhuman Depressions," my breakthrough came when I realized that "depression" is itself a metaphor, that science like literature relies on figurative language to tell its truths, to clarify its confusions, and to argue its hypotheses. Depression, as both a hole and diagnosis of mental illness, is a *figure* through which we can begin to make connections across the chasms not just between literature and biology but also between other seemingly disparate contingent histories and discourses. For feminist science scholar Donna Haraway, the figure provides a productive material-semiotic space where to meet the other, a "commonplace," where relationships are made and where desires are expressed among heterogeneous bodies and ideas. She describes the figure as both *topos* and *tropos*. The figure as *topos*, meaning "place" in Greek, is faithful to its etymological origin insofar as it shapes a space in which "to order our discourse, to compose our memory" (65).

Moreover, the figure as *tropos*, translated as "turning," signifies a *revolution*, a particularly swift, swerving motion or skewing displacement. Figures are tropes; they turn on us. *They also turn us on*. Haraway explains, "Writing is committed to swerving and tripping over these bipartite, dualist traps… tropes swerve; they defer the literal, forever, if we are lucky; they make plain that to make sense we must always be ready to trip" (2). Functioning as a trope itself, depression simultaneously forms a literal and figural topos of affective as well as ecological depth where to compose a shared discourse committed to elaborating and diversifying possibilities for cognition—what counts as thought.

The trope as the rhetorical locus for the encounter of unlike others may seem problematic insofar that the trope is constantly turning and moving, never stationary. How can an enterprise that seeks to know its object ever fully understand that object if it is constantly facing the other way? My understanding of the figure as trope is best articulated through my narrative of reading Haraway for the first time—my surprise, confusion, and unexpected stumble into the variable interstices of techno-science. Never sanitary and always contingent, her topographical and tropological tripping became most legible to me through her retelling of an erotic encounter after attending a lecture at Yale on the electron transport system:

> After the lecture, on a walk around town, I felt a surging high. Trees, weeds, dogs, invisible gut parasites, people—we all seemed bound together in the ultra-structural tissues of our being. Far from feeling alienated by the reductionistic techniques of cell biology, I realized to my partial embarrassment, but mainly pleasure, that I was responding

> *erotically* to the connections made possible by the knowledge-producing practices, and their constitutive narratives of techno-science … Machine, organism, and human embodiment all were articulated—brought into a *particular* co-constitutive relationship—in complex ways that forced me to recognize a historically specific, conjoined discipline of love, power and knowledge. (130)

Baffled and admittedly titillated by Haraway's story, I found myself troubled not so much by the erotic, "co-constitutive" relationality of diverse bodies as was I by the initial spark of her arousing experience: the electron transport system (ETS), a seemingly routine cellular event in which redox reactions use proton-motive forces to produce energy. Imagine getting hot and heavy with molecular biology! I asked myself: What does it mean to be turned on by molecules and their practically indiscernible activities? How does one feel molecular? I had been tripped by the trope—a veritable bio-trope.

Remembering from college biology that the ETS results in membrane potential, that is, charged particles near the mitochondrial membrane poised to instigate biochemical reactions, I began to ponder the erotics of molecularity. However, I was disappointed to realize that I could not remember the step-by-step molecular events through which energy is produced. How could I become intimate with molecules if I could not even remember their names? And from what little I could remember, I was even more puzzled as to how *exactly* the ETS converts adenosine-diphosphate (ADP) into adenosine-triphosphate (ATP), the primary molecule that supplies the body's energy. I decided to brush off my dusty biology textbooks for a refresher. In a process called glycolosis, a sugar molecule—namely, glucose—is broken into pyrvuate. Pyruvate, in

turn, becomes the substrate for the Kreb's Cycle and is oxidized into acetyl CoA. As acetyl CoA is further oxidized into carbon dioxide, each turn of the Kreb's Cycle yields coenzymes, whose exchange of electrons powers the movement of ions across the mitochondrial membrane. This movement of electrons, dubbed the ETS, somehow enables the synthesis of ATP. The end. This is how the textbooks concluded their explanations. After all that, I was left with this peculiar and unsatisfying answer—membrane potential—charged ions braced for action—one process leading to another, bio-trope after bio-trope, in a seemingly endless chain of signifiers. I found myself displeased with these biological displacements leading to nothing but potential. As a former student of science, I knew well enough that these ions did not tell the whole story of how ADP becomes ATP. Something was missing.

Caught in this moment of desiring to know—to connect with the missing link—I began to understand what Haraway meant by "a conjoined discipline of love, power, and knowledge." I too wanted to be turned on, but first I had to connect. The desire for connectivity requires extension into the intervals between membranes and organelles, engaging in practices of curiously close reading and recognizing that what I find might not fit textbook paradigms of scientific knowledge. After an hour-long trip into unplanned research, I came across a cellular mountebank going by the name ATP synthase, who withheld the answers to my questions.[3] Although appearing trustworthy as an enzyme innocently embedded in the mitochondrial membrane, this biological catalyst has a deceptively tropological structure. Haraway would call it a "trickster," who could turn on you and trip you up when you least expect it. ATP synthase is comprised of two subunits joined by an axle, which *turns* as charged ions pass through apertures in the cell

membrane. As the axle spins, the primary subunit undergoes conformational transformations, changing shapes as it binds ADP to a free organic phosphate. *This is how ATP is made*. The moment I hoped to be liberated from the bio-tropological system—delivered to a complete and totalizable order—I realized that my desire to be aroused by molecules had led me to a shapeshifter whose contours are always in flux, always twisting and turning. ATP synthase is a Janus-faced bio-trope, forever sidestepping a pure and reliable representational identity. At last, I was turned on.

In the chapters that follow, I do my best to sustain the *eros* and, indeed, the very queerness that inspired this project in its nativity. My enthusiasm for the sciences, especially neuroscience, was never pure, always tainted by my preference to cruise the margins of the field and by my sometimes injudicious propensity for mounting rebellions against norms. For these reasons, I've adopted theoretical frameworks that permit for the perverse and wildly heterogenous forms of thought that occur in and around the earth's holes. My readings of early modern texts abide by the general principles of embodied cognition, distributed cognition, and cognitive ecology—frameworks that understand "thinking" as distributed across the brain and the world; that is, not bound by or limited exclusively to the central nervous system but that necessarily involves the exterior environment in which cognition occurs. The path-breaking work of Edwin Hutchins and Andy Clark makes possible such a worldly view of cognition, one that evokes the brain's ecology and the interactions that occur beyond the body's surface, implicating multiple human and nonhuman actors who inhabit the system.[4] Cognitive ecologies are comprised of both neural and material processes; indeed, neural processes *are* material processes at their core. The challenge lies in inventing and cultivating cognitive methodologies

appropriate for cultural, literary, and historical projects. Traditionally, the rival methodologies that pit the sciences against the humanities have been administratively irreconcilable. "Inhuman Depressions" takes steps to assuage this agitation.

During a seminar on Shakespeare and Cognition at the 44th meeting of the Shakespeare Association of America, John Sutton remarked that the experimental processes of science require the brutal stripping away of complexity, searching the noise for patterns, trends and, for lack of a better word, norms of any statistical significance. Cognitive literary studies is in the unique position to restore subtlety to this enterprise and to instruct scholarly practices that not only account for noise—what occurs on life's margins and with those who live there—but also take pleasure in it. Sutton advocated for what he called "thick cognitive history," a context-sensitive and historical mode of literary practice that embraces the genre of the case study as a model for interdisciplinary scholarship. Taken in combination, these discrete locutions of cognition's domains in literature evince semantic legacies of mind and brain that undermine the primacy of our present-day epistemologies; they re-introduce heterogeneity as a defining feature of cognition itself. I imagine each of my chapters as an individual case study that, when juxtaposed to my other chapters, provides a glimpse of how cognition and affect move across early modern ontologies of mineral, plant, animal, and human.

In *Embodied Cognition in Shakespeare's Theatre*, Sutton, Laurie Johnson, and Evelyn Tribble take up embodied cognition "precisely to defamiliarize the idea of the separation of bodies *and* minds," especially during the sixteenth century and into the seventeenth when, according to the familiar narrative, Descartes so-called "damaging dualism" threatened to overturn earlier hybrid, psychophysiological philosophies of

cognition and embodiment (1, 5). Following suit, I also turn to embodied cognition to interrogate not only the mind-body split but also the division between humans and nonhumans, holding fast to the necessity for a mode of critique that considers the cognitive potentials of animals, plants, and minerals as much as it does for humans.

The trajectory of the chapters in "Inhuman Depressions" is not chronological but follows instead an Aristotelian ontology, from soil to plants to animals to humans, which structured what early moderns understood as the Great Chain of Being.[5] Every living thing in the universe had its place within a divinely ordained hierarchy that ascended vertically from the ground to the heavens. Seemingly inert objects, including stones and metals, inhabited the lower rungs and were followed by the vegetative class, animal class, humans, angels and, at the very top, God. Even within these divisions were additional hierarchies that further defined the body's relationship to others, either above or below. I reiterate this organization in "Inhuman Depressions" not to reinforce the classical hierarchy of being but to interrogate its divisions each step of the way, to return these categories always to the earth and to leave them a bit more flat. I do this by locating each chapter within or in relationship to a hole, paying homage to the lowly creatures that inhabit such depressed spaces. It is important to remember that the Great Chain of Being organized early modern natural philosophies and emergent scientific discourses, but it is equally as necessary to identify the holes in these hierarchies—vulnerable spaces of uncertainty, hybridity, and entanglement—where to bring them down.

The opening chapter explores the cognitive and environmental dimensions of depression in *Hamlet* through a reading of the play's holes: the bunghole stopped by Alexander's decomposed flesh, Ophelia's grave into which Laertes leaps and where "her

fair and unpolluted flesh" gives rise to violets, and Hamlet's own depression that collapses negative affect into ecological depth (5.1.249). Central to my argument is humoral melancholy, a characteristically cold and dry humor associated with the cold and dry earth. Shakespeare radicalizes this association, for Hamlet's melancholy is itself materialized by dirt. My reading is also deeply interested in the contemporary neuroscience of depression. More specifically, the science informing my literary claims is based in part on my research studying depressive metaphors and the therapeutic effects of deep brain stimulation in treatment-resistant depression in a neuropsychiatric lab. Deep brain stimulation for depression is a surgical intervention involving the bilateral stimulation of the subcallosal cingulate gyrus, a brain region known to be implicated in mood regulation. Because there exists no physiological measure of psychic pain or the psychosomatic manifestation thereof, researchers rely on patient self-reporting in order to assess cognitive health. Patients too, lacking an adequate metric, resort to metaphorical language to describe their experiences. In the lab, I observed metaphors of depth become decidedly ecological as patients characterized depression as holes in the earth: a vortex of quicksand, a mossy ditch, a pit of dirt and stone. Thinking early modern melancholy alongside neuroscientific theories of depression, this chapter concludes that Hamlet's emotion literalizes terrestrial depth.

Chapter two focuses on plants. I bring *Paradise Lost* into conversation with queer theory, botany, and the history of medicine to argue that Milton's knowledge of pharmacological plants, coupled with his monist belief in ontologic material sameness, results in cross-species eroticism predicated not on heterosexual difference but on anatomical similitude. Through Milton, I show that desire for bodily resemblance

between humans and plants troubles the Foucauldian concept of homosexuality as an "interior androgyny" by insisting instead on corporeal congruency. To make this point, I invoke the medieval and Renaissance Doctrine of Signatures, which upheld that the morphology of a plant corresponds to its therapeutic effect on a part of the human body with similar morphological features. For instance, in Book 9, the archangel Michael restores Adam's vision with an herbal remedy made from eyebright, a flower so named for its resemblance to the eye. I argue that these visual correspondences across species are, at their core, homoerotic in that they stem from a fundamental desire for bodily sameness. This chapter maps Adam's blindness with Milton's and then consults an emergent discourse of homeopathic medicine in an effort to generate intimacy between species during a historically particular moment when humans saw themselves in plants.

The third chapter shifts the dissertation's focus from botanical life to animal life, a taxonomic leap that was probably not so distant for early moderns who, following Aristotle, perceived plants as rooted animals. Through a reading of Shakespeare's *Titus Andronicus* as well as Thomas Dekker and Phillip Massinger's *The Virgin Martyr*, I employ neuroscience and behavioral biology to consider possibilities for insect emotion on the early modern stage. I take as my starting point my experience in a genetics lab studying the molecular basis of Parkinson's Disease by using gene-silencing technology to induce seizure-like symptoms in microscopic nematodes. I then turn to Haraway's articulation of animal killability to consider the ways in which some animals, especially insects, are made available for killing, not only in the name of science but also in everyday interactions. Early modern insects, however, pose an interesting paradox; on the one hand, they were therapeutic—medical treatises and household remedies insisted on

the healing properties of their bodies—while, on the other, they were deadly bearers of the plague. Insects annihilate humans just as humans annihilate insects, sometimes *en masse*. The early modern theater was, in many ways, the primary site where such deadly reciprocity played out, not only as ground zero for the plague's spread but also in the appearance of insects in the period's drama. Focusing on Shakespeare's infamous "fly scene," I argue that, in their mutual exposure to harm, Titus and the fly explore possibilities of interspecies sympathy. Then, drawing on recent neuroscientific studies postulating entomologic "feeling," I argue that Shakespeare stages insect emotion not through pathetic fallacy or anthropomorphism but through the production of an affective ecology where nonhumans too are capable of feeling.

The final chapter serves as a coda to "Inhuman Depressions" by imagining new directions for the project and by expanding the concept of an "underground," so prevalent in the earlier chapters, to include subterranean cultures of queer sex. Cognition is still a primary concern, but I am also interested in the bodily and cultural productions of transexuality: the sometimes fraught transitional processes of "making do" with one's sex—negotiating the holes of identity—with the help of an external, nonhuman object. Specifically, I address the gendered embodiment of bodily holes with stage properties on the early modern stage. At the center of my argument is Desdemona's handkerchief, which, by its own mythic materiality, weaves plant, animal, and human into its fabric. From its woven strawberries to the silkworms that generated its threads to the mummified fluids "[c]onserved of maidens' hearts" with which it was dyed, the handkerchief portends a foreign and transitional ontology (3.4.77). By reimagining the handkerchief from *Othello* as an erotic prosthesis, I challenge the fabric's commonplace association

with the feminine gender and the female body, especially Desdemona's, to argue instead for a concept of transitional sex that is attentive to movement, opacity, and nonhuman materiality. Through an engagement with D.W. Winnicott's psychoanalytic theory of transitional phenomena, I argue that the handkerchief functions as a "transitional object" in that it enables Desdemona's movement from a "maiden never bold" to "such a man" (1.3.95, 164). By linking Desdemona's handkerchief to a modern sexual subculture of handkerchiefs, I probe possibilities for alternatively configured bodies that may attach, detach, and even strap-on their parts. The materialist processes of "making do" with one's sex involve a transitional ontology through which things become, in both senses of the word, the body as well as the mind.

In sum, "Inhuman Depressions" seeks to carefully dehumanize cognition by showing how early modern writers imagined thought as distributed amongst various bodies, both human and nonhuman, throughout an ecology. In these moments of disruption, where inhumane affect humbles the figure of the human, my hope is to recover long lost intimacies with the earth and its inhabitants not only for the sake of our critical discourse but also to orient our minds and our bodies erotically outward toward the environment.

Works Cited

Bruckner, Lynne and Dan Brayton. "Warbling Invaders." *Ecocritical Shakespeare*. Ed. Bruckner and Brayton. Burlington: Ashgate, 2011.

Edelman, Lee. *No Future: Queer Theory and the Death Drive*. Durham: Duke University Press, 2004.

Garrard, Greg. "Forward." *Ecocritical Shakespeare*.

Halberstam, Judith. "Reflections on Queer Studies and Queer Pedagogy." *Journal of Homosexuality* 34 (2003): 361-364.

Haraway, Donna. "A Kinship of Feminist Figurations." *The Haraway Reader*. New York: Routledge, 2004.

—. "Otherworldly Conversations; Terran Topics; Local Terms."

—. "The Promise of Monsters: A Regenerative Politics for Inappropriate/d Others."

Heise, Ursula. "The Hitchhiker's Guide to Ecocriticism." *PMLA* 212.2 (2006): 503-516.

Ingram, Gordon Brent. "Marginality and the Landscape of Erotic Alien(n)ations. *Queers in Space: Communities | Public Places | Sites of Resistance*. Ed. Ingram, Anne-Marrie Bouthillette, and Yolanda Retter. Seattle: Bay Press, 1997.

Johnson, Laurie, John Sutton, and Evelyn Tribble. "Re-cognising the Body-Mind in Shakespeare Theatre." *Embodied Cognition and Shakespeare's Theatre: The Early Modern Body-Mind*. Eds. Johnson et. al. New York: Routledge, 2014. 1-12.

Love, Heather. "Oh, The Fun We'll Have: Remembering the Prospects for Sexuality Studies." *GLQ: A Journal of Lesbian and Gay Studies* 10.2 (2004): 258-261.

Menon, Madhavi. "Queer Shakes." *Shakesqueer*. Ed. Menon. Durham: Duke University Press, 2011.

Mortimer-Sandilands, Catriona and Bruce Erickson. "A Genealogy of Queer Ecologies." *Queer Ecologies: Sex, Nature, Politics, Desire*. Ed. Mortimer-Sandilands and Erickson. Bloomington: Indiana University Press, 2011.

Morton, Timothy. "Queer Ecology." *PMLA* 125.2 (2010): 273-282.

Paster, Gail Kern. *Humoring the Body: Emotions and the Shakespearean Stage*. Chicago: University of Chicago Press, 2004.

Sutton, John. "Shakespeare and Cognition." Shakespeare Association of America. New Orleans, Louisiana. 26 March 2016. Seminar.

Taylor, Gary. "'We have to protect people': President Bush wants 'pro-homosexual' drama banned. Gary Taylor meets the politician in charge of making it happen." *The Guardian*. 9 December 2004.

Warner, Michael. "Queer and Then?" *The Chronicle of Higher Education*. 1 January 2012.

---

[1] A note to clarify the ways in which I deploy the terms "affect," "emotion," and "feeling" throughout "Inhuman Depressions": I follow Ann Cvetkovich, who understands the terms as inclusive and overlapping, "I tend to use *affect* in a generic sense, rather than in the more specific Deleuzian sense, as a category that encompasses affect, emotion, and feeling, and that includes impulses, desires, and feelings that get historically constructed in a range of ways (whether as distinct specific emotions or as a generic category often contrasted with reason)—but with a wary recognition that this like like trying to talk about *sex* before *sexuality*. I also like to use *feeling* as a generic term that does some of the same work: namely the undifferentiated "stuff" of feeling; spanning the distinctions between emotion and affect central to some theories; acknowledging the somatic or sensory nature of feelings as experiences that aren't just cognitive concepts or constructions. I favor *feeling* in part because it is intentionally imprecise, retaining the ambiguity between feelings as embodied sensations and feelings as psychic or cognitive experiences" (4).

[2] For exemplary scholarship in early modern animal studies, see Laurie Shannon, *The Accommodated Animal: Cosmopolity in Shakespearean Locales* (Chicago: University of Chicago Press, 2013); Bruce Boehrer, *Shakespeare Among the Animals: Nature and Society in the Drama of Early Modern England* (New York: Palgrave, 2002); *Perceiving Animals: Humans and Beasts in Early Modern English Culture* (Urbana: University of Illinois Press, 2002). For scholarship that brings together animal studies and sexuality studies, see Dympna Callaghan, "(Un)natural Loving: Swine, Pets, and Flowers in *Venus and Adonis*," *Textures of Renaissance Knowledge*, ed. Philipa Verry and Margaret Tudeau-Clayton (Manchester: Manchester University Press, 2003) and Richard Rambuss, "Shakespeare's Ass Play" in *Shakesqueer*. For work on plants, see Jean Feerick, "Botanical Shakespeares: The Racial Logic of Plantlife in *Titus Andronicus*," *South Central Review* 26 (2009): 82-102 and Vin Nardizzi, *Wooden Os: Shakespeare's Theatres and England's Trees* (Toronto: University of Toronto Press, 2013). For work on water, see Dan Brayton, *Shakespeare's Ocean: An Ecocritical Exploration* (Charlottesville: University of Virginia Press, 2012).

[3] For more on ATP synthase, see Jiafeng Liu et. al., "A Reciprocating motion-driven rotation mechanism for the ATP synthases," *Science China* 59 (2015): 1-6. See also, PD Gresser et. al., "Catalytic site cooperativity of beef heart mitochondrial F1 adenosine triphoshpate. Correlations of initial velocity, bound intermediate, and oxygen exchange

measurements with an alternative three-site model," *The Journal of Biological Chemistry* 257 (1982): 12030-12038.

[4] See Edwin Hutchins, *Cognition in the Wild* (Cambridge: Massachusetts Institute of Technology, 1995) and Andy Clark, *Supersizing the Mind: Embodiment, Action, and Cognitive Extension* (New York: Oxford University Press, 2008) for foundational examples of how scholarship in embodied cognition resists computational models of mind in favor of the context-specific melding of brain, body, and world.

[5] E.M.W. Tillyard in *The Elizabethan World Picture* and A.O. Lovejoy in *The Great Chain of Being: The History of an Idea* lay out the central premise of the *Scala Natura*, a structural hierarchy organizing all matter—organic as well as inorganic—according to an Aristotelian ontology. This hierarchy, however, was not only ontological but also moral, political, and epistemological, granting superiority to those closest to God. For more, see Tillyard, *The Elizabethan World Picture* (New York: Vintage, 1959) and Lovejoy, *The Great Chain of Being: A Study of the History of an Idea* (Cambridge: Harvard University Press, 1936). It should be noted that not all early moderns believed in the Great Chain of Being, and in the following chapters, I show how sixteenth and seventeenth-century dramatists, poets, scientists, vitalists, and other natural philosophers offer alternate, less hierarchical ways of conceptualizing terrestrial as well as supernatural matter.

CHAPTER 1

HAMLET'S INHUMAN DEPRESSION: THE COGNITIVE AND ENVIRONMENTAL DIMENSIONS OF DIRT IN SHAKESPEARE

so painfully to this
countryside, this graveyard
this stillness
on death bed or mountain
once seen
never regained or desired
in the mind to come

—Allen Ginsberg, "My Sad Self"

PART ONE: SWALLOWING EARTH

In William Shakespeare's *As You Like It*, the famously melancholic Jacques encounters a weeping stag, "Under an oak, whose antique root peeps out / Upon the brook that brawls along" the Forest of Arden (2.1.32-3). Shakespeare's vivid, woodland description reminds us that Jacques' melancholy takes place within a very specific ecology and speaks the native language of the forest that is poetic as much as it is ancient. The exiled lords of Duke Frederick's court converse of an expatriated "life, exempt from public haunt," where they "[find] tongues in trees, books in the running brooks, / Sermons in stones, " where earth, water, and mineral actualize a secret semiology legible only to those who dwell within the wood (2.2.16-7). This earthly conversation between elements and men, however, is interrupted by the distressing groans of a "poor sequestered stag," who "from the hunter's aim had ta'en a hurt" (2.2.33-4). The brute's loud suffering distends its skin to the limits: "The wretched animal heaved forth such groans / That their discharge did stretch his leathern coat / Almost to bursting" (2.2.37-9).

Shakespeare's weeping stag figures the grotesque corpulence of dying and the liquefactive excess of pain. Suffering becomes coextensive with the environment as the animal's "big round tears / Coursed one another down his innocent nose / In piteous chase," slipping into and "augmenting" the liquid rush of the forest's "swift brook" (2.2.38-40, 42-3). At the water's edge, animal emotion audibly and materially amplifies the scope of the environment. Jacques' interspecies encounter evinces an affective ecology not only where animals possess the capacity to weep when in pain but also where the expression of such pain supplies and incarnates the natural world.

Tobias Menely reads "the stag's expressive groans and pathetic appeal" in "the West's literary bestiary" as "the basis for a claim of ethical consideration and thus [implication of] a relation … between affective *communication* and interspecies *community*" (111-2). This relation, which Menely pursues through Giorgio Agamben's and Jacques Derrida's work on animality, Robert Burton, the ambitious author and editor of the compendious *Anatomy of Melancholy* (1621), exploits in "The Argument of the Frontispiece" to the text's sixth edition (1651). The poem runs through different species of melancholy pictorialized in the frontispiece—*zelotypia*, *solitudo*, *inamorato*, *hypocondriacus*, *superstitiosus*, *maniacus*—and herbs believed to treat melancholy—*borage* and *hellebore*—but begins with a particularly unsettling image:

> Old Democritus under a tree
> Sits on a stone with book on knee;
> About him hang there many features,
> Of cats, dogs, and such-like creatures,
> Of which he makes anatomy,

The seat of black choler to see. (1-6)

In the opening stanza, Burton draws upon the ancient practice of animal vivisection, which Galen famously undertook on dogs, pigs, and macaques in an effort to better understand the inner workings of the human body. As the first model organisms—that is, nonhuman species used to understand biological functioning in humans—these cut up animals sometimes led to mistaken assumptions about human anatomy. For example, Galen's description of the uterus was based on that of a canine, and his anatomy of the brain derived from a ruminant's (Nutton 801). Burton's elder Democritus joins this speculative tradition of comparative anatomy by assembling his own makeshift theater to search for the material locus of melancholy within the vivisected carcasses "Of cats, dogs, and such-like creatures." The accompanying frontispiece visually splays their supine bodies along the walkable periphery of a meticulously manicured garden. The engraver casts the old philosopher's eyes ruminatively skyward, away from the book at his knee, and slumps his body into a conventionally melancholic posture reminiscent of the angel in Albrecht Dürer's *Melencolia I* (1514). Like Shakespeare, who turns inward emotion liquefactively outward in his depiction of a wounded stag, Democritus peels back the membranes of bestial bodies to expose their emotional nucleus, unfolding the hidden involutions of melancholy for the human eye to behold. The word "melancholy" etymologically imbeds this black matter from the Greek *melaina-kole*, the liquid substrate actualizing the embodied experience of bilious surplus—of emotion and sickness—even across the species border. Gail Kern Paster confirms that, according to the logics of the passions, animals and humans are composed of the same basic elements; they "shared in

the psychological consequences—the self experience of possessing them," in turn generating similitude across species, "a shared terrain of the affects" (136).

I invoke these separate instances from Shakespeare and Burton not only as points of entry into literary and scientific discourses on early modern melancholy but also as examples of the ways in which melancholy becomes as much a part of the environment as the brook coursing with the stag's tears, the sermon-speaking stones, or the tree under which Democritus sits to contemplate zoological anatomies. In this chapter, I look to Shakespeare's *Hamlet*—the titular character o which is widely regarded as *the* archetypal, melancholic figure of the Western canon—to argue that melancholy is coextensive with the natural world and that minded states are enacted not only by the brain but also by a neural body that innervates its environment. By locating melancholy within the critical genealogy of clinical depression, I seek transhistorical correspondences between the two to suggest that depression is not merely a figure of cognitive dysfunction or pathology but, alternately, a concave space in the earth—quite literally, a hole—where humans unearth their nonhuman allegiances and where emotion is expressed even across the species divide. The *Oxford English Dictionary* records this sense of earthly concavity in its definition of depression, "A depressed or sunken formation on a surface; a hollow, a low place or part," that the dictionary's editors trace back to the 1665 *Philosophical transactions* of the Royal Society: "Of the Nature of the ground … and of the several risings and depressions thereof." So too has recent literary criticism turned its attention to the play's hollows. Ian MacInnes, for example, plumbs the slime and muck of the Danish land to interpret representations of putrefaction in *Hamlet*, while Tanya Pollard sensuously probes the orifices of the human body, especially the "vulnerable ears" with

their "perennial openness and sinuously winding interior chambers," to account for a "play [that] is obsessively interested in the interior of the body … [and] insistently concerned with the question of how to reach this interior, how to penetrate from the external to the internal" (124-5). And more recently, Drew Daniel has compared "Hamlet's abyssal interiority" to a "representational black hole" through his reading of the play's "that within which passes show" blazon:

> HAMLET: Seems, madam? Nay, it is, I know not "seems."
>
> 'Tis not alone my inky cloak, good mother,
>
> Nor customary suits of solemn black,
>
> Nor windy suspiration of forc'd breath,
>
> No, nor the fruitful river in the eye,
>
> Nor the dejected havior of the visage,
>
> Together with all forms, moods, shapes, of grief
>
> That can denote me truly. These indeed seem,
>
> For they are the actions that a man might play,
>
> But I have that within which passes show,
>
> These but the trappings and the suits of woe. (1.2.76-86)

Hamlet undermines his mother's psychiatric advice—"cast they nighted color off … Do not forever with thy vailèd lids / Seek for thy noble father in the dust"—by casting a critical eye not to the ground but to what he perceives as his mother's false mourning, the performative as well as physiological productions of grief. These superficial materializations of emotion, for Hamlet, constitute an affective ensemble—"forms, moods, shapes of grief"—that fail to precisely communicate an authentic inward state,

"that within." Daniel suggests that Hamlet, unlike his mother, possesses "a thingly 'that' which bears no nomination, no articulation, no exposure" (122). Indeed, the "thing" is nothing but a hole, an incomprehensible depression or emotional hollow that cannot be filled by a lost object—in this case, Hamlet's father—nor can it resolved by the rituals of mourning. Seeking to recover the "thingly, material character" of "that," Daniel emphatically states, "The 'that within which passes show' is melancholy" (123).

Scholars of early modern emotion have been quite diligent about not conflating melancholy and depression, which they see as two very separate conceptual constructs, each with its respective history and attendant disciplinary context. It is not my intention to undermine meticulous historicization by juxtaposing the two. Nor do I intend to easily assimilate melancholy into depression in a manner that erases context, culture, or individual experience. Rather, by bringing together early modern melancholy and the contemporary neuroscience of depression, I argue for a transhistorical concept of negative affect articulated through a series of interlocking metaphors that evince a cognitive ecology of lowness, an aesthetic as well as biological experience of affective depth that echoes not only against the steep sides of deeply felt "holes" but also across the annals of time. I am sympathetic to Rita Felski's call for non-teleological (what some might view as anti-historicist) scholarship on literature and science that problematizes periodization and that undercuts unilateral chronological flow. Resistance comes from below. She cites "a multitude of minor mutinies and small-scale revolts," especially in the fields of postcolonial studies and queer theory, which have undertaken the daunting task of unbuilding our conventional temporal frameworks (576). In fact, Felski zeroes in on the question of transhistorical affect in her own series of questions:

> Why is it that we can feel solicited, button-holed, stirred up, by words that were drafted eons ago? How do texts that are inert in one historical moment become newly revealing, eye-opening, even life-transforming in another? And how do such moments of transtemporal connection call into question the progress narratives that drive conventional political histories and the rhetoric of artistic innovation? (575)

"Hamlet's Inhuman Depression" is not a teleological narrative of how melancholy becomes depression in the modern age of brain science. Nor is it a scientific corrective to historically naïve attempts (humoralism, genial melancholy, etc.) to understand the mechanisms of depression. It is instead a "touch across time," to borrow Carolyn Dinshaw's metaphor for queer, transhistorical affect (3); it is to be touched by what David Hillman has called "the materialist habits of early modern thought" and to rediscover "thought" as an embodied cognitive process in our present moment (82). Early modern melancholy, as the combined cognitive and material effects of humoral surplus within the body, anticipates what many in the cognitive sciences are now calling "embodied" or "extended" cognition, what Laurie Johnson, John Sutton, and Evelyn Tribble collectively describe as "[t]he study of *situated* minds … decisively beyond what goes on in the individual skull, examining instead embodied, enactive, dynamic, and distributed cognitive processes as already bodily, social, practical, and worldly … precisely to defamiliarize the idea of the separateness of bodies *and* minds" (3).

Johnson and his co-authors, however, warn of the risks in invoking the cognitive sciences, primarily data-driven fields that have long privileged empirical means over qualitative analysis. They seem especially wary of overtly clinical approaches to

literature that obscure historical specificity, referencing one such study, Kenneth Heaton's "Body-conscious Shakespeare: sensory disturbances in troubled characters," from the journal, *Medical Humanities*, to critique what they classify as "symptomatic" readings of Shakespeare:

> first, they are symptomatic of the trend in popular appropriations of Shakespeare—they bear the hallmarks of modern readings that seek to dislocate the works of Shakespeare from their early modern moorings, to make Shakespeare a thoroughly modern thinker; second, Heaton's comments are "symptomatic" because they read surface phenomena as having a "psychological origin." (5)

In addition to being "symptomatic," such readings, I argue, also tend toward the "diagnostic." Take, for instance, A B Shaw's essay in the same journal, "Depressive illness in Hamlet's revenge," which diagnoses the play's protagonist with "acute depressive illness with obsessional features," even though, the author admits, "At the time, there was no concept of depressive illness" (92). Shaw identifies possible triggers for Hamlet's depression—"his father's sudden death, his mother's hasty marriage, and his disappointment in the succession"—and takes as evidence specific locutions—for example, "How weary, flat and unprofitable / Seem to me all the uses of this world! (1.2.133-4)—to show how Hamlet's behavior meets diagnostic criteria for clinical depression: "low mood, anhedonia, negative beliefs, and reduced energy." Such readings further obscure the religious connotations of melancholy. Early moderns would have understood an excess of black bile as a bodily as well as spiritual affliction. In *Emotional Excess on the Early Modern Stage*, Bridget Escolme worries that "it is unhelpful to apply

modern scientific notions of the normative or healthy to early modern medical philosophical discourses of the passions, since to do so is to tend to forget the religious premises on which some of the early modern notions of the passions are founded" (200). My intention is not to malign presentist or medical approaches to literature, especially as I cobble together one of my own, but I do support transhistorical approaches that rigorously account for the historical particularities of disparate critical contexts while affirming the sympathies that bind them across the ages.

Literary criticism, in contrast, while claiming to be interested in structures of feeling, has overlooked the biological mechanisms of feeling and how feeling is produced in favor of socially constructed models of intersubjectivity. I see in literary circles what Elizabeth Wilson has observed in the wider field of feminist theory, "where biology remains something of a thorny conceptual and political issue and where antibiologism is still valued as currency" (2). Ann Cvetkovich admits as much in her book length study on depression: "We were taught to be suspicious of essentialisms, including those associated with affect" (8). Hesitant to turn to science for fear of essentializing categories of difference, the humanities have adopted theories of culture—particularly those of a Foucauldian, Freudian, or Derridean persuasion—as the primary analytical tools with which to question and postulate minded and bodily states. Eve Kosofsky Sedgwick explains, "The distance of any such account from a biological basis is assumed to correlate near precisely with its potential for doing justice to difference (individual, historical, and cross-cultural), to contingency, to performative force, and to the possibility of change" (93).[1] The less a literary critic engages with biology, the better. The so-called "affective turn" in the humanities has been somewhat narrowly circumscribed by

sociopolitical territorializations of Deleuzian affect, further delimited by a widespread aversion to science. Cvetkovich, for instance, looks backward to premodern melancholy "in search of resources for alternative understandings to the medical model" of depression in an effort to justify what she describes as "a simple premise: that depression should be viewed as a social and cultural phenomenon, not a biological or medical one" (90). Theorists of embodied cognition, however, would disagree with such opposition, arguing instead that depression comprises heterogeneous neural and material processes within and beyond the brain, implicating culture as much as it does biology. "Biology and culture are not separate, agonistic forces," Wilson writes, and to think "in such bifurcated terms" is to shortchange contingency, dynamism, and embeddedness (8).

Theories of embodied and distributed cognition have stimulated the field and subfields of cognitive literary studies in recent years, particularly for scholars of the sixteenth and early seventeenth centuries, when philosophies of cognition were not determined by the Cartesian body-mind split and when, moreover, "the characteristic melding of physiology and psychology so often seen in early modern humoral and medical discourse" offered a historically situated framework by which to apprehend emotion as bodily (Johnson et. al., 2). Galenic medicine held that sickness is the effect of an imbalance (*dyskrasia*) of the body's four humors—that is, bodily fluids including blood, phlegm, bile, and black bile—and that wellness is achieved by returning the humors to equilibrium (*eukrasia*), often through purgative measures such as blood-letting. The humors joined a quadcameral psycho-physiology organized by correspondences with temperature, season, and temperament. Black bile, an autumnal and characteristically cold, dry humor, materialized liquid melancholy. Noga Arikha, in

Passions and Tempers, notes that excessive black bile "could produce extreme mental states and psychic disorders, from despondency to madness; in its most pathogenic manifestations, black bile gave birth to *adust*, or burnt melancholy," which often led to *acedia* or mental sloth, a mortal sin according to Christian doctrine (115). Arikha points us to Dante's *Inferno*, where the slothful suffer in Hell's fifth circle:

> "Lodged in the slime they say: 'Once we were grim
> And sullen in the sweet air above …
>
> We have this black mire now to be sullen in.'
> This canticle they gargle from the draw,
> Unable to speak whole words." We travelled on
>
> Through the great arc of swamp between that slough
> And the dry bank—all the while with eyes
> Turned toward those who swallow the muck below.

Whereas Arikha invokes Dante to stress the eternal consequences of acedic melancholy, I am struck by the ways in which the very matter of melancholy actualizes damnation in the *Inferno*; black bile becomes the "black mire," where the slothful sinners not only perpetually sulk but also "swallow the muck" of "the great arc of swamp." The Empedoclean link between melancholy and earth is not lost on Dante, who condemns melancholics to relive their sinfulness by ingesting mud, which, in turn, clogs their throats and stops their words. Melancholy is unspeakable; it is swallowing earth.

Daniel enjoins Empodocles to strengthen his claim that melancholy is not a unitary concept but a multiple one. Hippocratic medicine, from which humoralism partially derives, itself stems from the Empedoclean cosmos in which the quadratic *roots*—earth, air, water, and fire—comprise an elemental ecology. The promiscuous interactions of these roots are laid out in the extant fragments of a cosmographical poem, the majority of which has been lost to history. Daniel observes, "Accordingly, humoralism has its basis not in a moment of 'normal science' but in a lost object on the horizon line before the disciplinary segregation of poetry and philosophy" (18). Melancholy's fragmented, ancient past is further confounded by its inheritors, namely Aristotle's student, Theophrastus, and early modern Italy's reviver of Neoplatonic philosophy, Marsilio Ficino. Theophrastus' "Problemata XXX.1" ascribes genius to those of melancholic temperament. This materialist form of intellectualism is often referred to as genial melancholy to designate excellence in politics, poetry, and philosophy. Theophrastus writes of the generative fluctuations of the atrabilious humor:

> And since it is possible for a variable state to be well tempered (*eukraton*) and in a sense a favourable condition, and since it is possible for the condition to be hotter and then again cold, when it should be so, or to change to the contrary owing to excess, the result is that all atrabilious persons have remarkable gifts, not owing to disease but from natural causes. (955a35-9).

In early modern England, genial melancholy rivaled pathological melancholy. The two did not easily coexist, as Lawrence Babb, author of the *The Elizabethan Malady*, would have liked to believe.[2] Instead, melancholy became a "polychronic assemblage

territorialized around a core set of author-functions (Empedocles, Hippocrates, Aristotle/Theophrastus, Galen, Ficino)," and eventually gave way to what Daniel diagnoses as

> A central contradiction whose consequences remain undertheorized: the ongoing tension between the Aristotelian/Theophrastan account of genial melancholy and the Galenic account of pathological imbalance. This tension disorganizes the concept but also paradoxically introduces a secondary kind of consistent incoherence, or generative indeterminacy, into the expression of melancholy itself. (17)

It is by such complex and seemingly paradoxical assemblage that melancholy comes to be further elaborated by yet another author-function, Sigmund Freud's (1856-1939), across *Hamlet's* twentieth-century critical repertoire—a veritable echo chamber of criticism in which the concept of lack sounds and resounds ad nauseum against the sides of seemingly interminable interpretations. Mourning and melancholy, according to Freud, are affective responses to the loss of a love-object. "There is no doubt that the 'lost object' is Old Hamlet," insists Daniel. Mourning differs from melancholy in that the lost object is resolved within the subject's consciousness through a gradual process of cathexis and "letting go." The melancholic subject, on the other hand, retains the lost object as scattered fragments within the unconscious and fails to comprehend precisely what it is that has been lost.

I argue that depression, like melancholy, sustains a similar fragmentary or "consistent incoherence," even if its history is further removed from the early modern period. It was Emil Kraepelin's (1856-1926) and not Freud's concept of depression that

came to dominate modern psychiatry in the latter half of the twentieth century and that eventually anticipated the disease's expression as a cluster of symptoms constituting a syndrome in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Kraepelin conjectured that cognitive diseases evince defects within the brain, a theory that gained credence through studies on brain lesions; that is, scientists hypothesize the function of particular regions of the brain by observing the psychomotor deficits caused by damage to neural tissue. Lianne Habinek traces this practice back to the early modern physician Franciscus Arceus, who, in his *A most excellent and Compendious Method of curing woundes in the head* (1588), endorses a two fold approach by which to apprehend injury to the brain, "First, he could attempt to recreate the circumstances of the wound in the hopes of discovering the nature and extent of the damage. Second, he could observe the patient's behaviors … and then make guesses about which parts of the brain had been effected" (199). Helkiah Crooke, Habinek further observes, deduces a method of retrograde thinking "whereby one must reason backward from effect to cause" in order to grasp neurobiological phenomena. Traumatized flesh and the backward thinking of early modern brain science undergird Habinek's reading of *Hamlet* in which she connects the play's cognitive trauma to the violence inherent in the act of writing. "Inscription of any sort … seems to constitute a kind a violence," she suggests, before inferring a novel mode of brain-writing, where the writing surface is materialized not by parchment but by the stricken body itself: "To literalize the play's metaphor by thinking of such inscription as taking place on the brain recalls the physician's inquiry into a case of head trauma" (209). That is, a lesion (or hole) in the brain—in Hamlet's case, the neural consequence of trauma initiated by Claudius poisoning Old Hamlet—is a form of pathological

inscription. Such writing is not done by hand. For Kraepelin, neural inscription doubles as a depression within the brain's tissue that underwrites the very etiology of depression.

Kraepelin's "new" melancholy took its name from the perceptual experience of depression, specifically the bodily sensation of being "de-pressed," the feeling of immobilizing, physical weight pressing down on the chest. From its institutional inception, depression registered a feeling of lowness, of debilitating burden. The American psychiatrist Adolf Meyer (1866-1950), closely following Kraepelin yet seeking academic distance from Freud, recommended abandoning "melancholy" altogether because the term proved too cumbersome, bearing the historical weight of mythology and pseudoscience: "In its current use melancholia applies to all abnormal conditions dominated by depression … If instead of melancholia, we applied the term depression to the whole class, it would designate in an assuming way exactly what was meant by the common use of the term melancholia" (qtd. in Lawlor, 151). The problem was largely semantic, with "melancholy" seeming to take on more that it could handle. The scientific stripping away of complexity continued with the subsequent generation of Meyerian disciples, who would further biologize pathological sadness into a checklist of symptoms standardized by the third edition of the DSM in 1980. Clark Lawlor explains how science attempted to domesticate the wild heterogeneity of melancholy into the "unitary illness" of depression:

> Depression was a primary disorder of the emotions, and a diagnosis of depression required the patient to satisfy three criteria. The patient must have a dysphoric mood (be sad, feel hopeless etc.); must have five additional symptoms (lack of hunger, sleep, energy, interest in normal

> activities, speed of thought, suicidal thinking, guilt, agitation); and the symptoms must have lasted one month and not be caused by a different illness. (163)

The relentless focus on symptomatology, however, obscured the etiology of depression. What were the underlying causes of the disease? Were its triggers internal or external? What happens in the brain at the level of the cell, synapse, or molecule when depression takes hold? Competing biological models sought precedence in the race to pharmacologically treat depression, especially by the 1990s, when overmedicating sadness became somewhat of a fashion as much as it was an epidemic. Exogenous theories would hold that depression is context-specific and triggered by external events, whereas endogenous theories—those that understand depression as having an internal cause or biological origin—would draw on genetics or biochemistry to locate depression within the body, even down to the DNA. One such endogenous theory, that of "chemical imbalance," points to fluctuating levels of catecholamines, like dopamine and norepinephrine, to account for sadness at their lowest levels and elation at their highest. To what degree does "chemical imbalance" hearken back to humoral imbalance, fluctuating levels of *melaine-kole*, black bile coursing through the body? Have the four humors merely been replaced by neurotransmitters?[3]

There's an incoherence intrinsic to clinical concepts of depression that evokes the incoherence of early modern melancholy, specifically the failure of depression to signify purely as a neurochemical or cortical event because of its immeasurability—its refusal of empiricism—and its utter reliance on the capacities of language, in particular the figural function of metaphor, to convey the intensity of emotional pain. Whereas, for Daniel, the

thingly "that within" is a melancholic assemblage, for Julia Kristeva in *Black Sun: Depression and Melancholia*, it is inarticulate, nonrepresentative, what she characterizes as "a noncommunicable grief that at times, and often on a long-term basis, lays claims upon us to the extent of having us lose all interest in words, actions, and even life itself" (3). Depression is resistant to the representational means by which science would attempt to capture it. There exists no physiological measure of depression, no test to number its potency. Even as Kristeva aligns her project with Freud's, she understands depression as coextensive with melancholy, "a composite that might be called melancholy/depressive, whose borders are in fact blurred" (10). The difference is of tempo and intensity with melancholy being the more intense of the two.

What I find so provocative about Kristeva's *Black Sun* is in the language of depression, the idea that words are affectively dense eruptions and that "moods are *inscriptions*" (22). She elaborates, "They lead us toward a modality of significance that, on the threshold of bioenergetic stability, insures the preconditions for (or manifests the disintegration of) the imaginary and the symbolic." Sadness, then, is the illegible imprint of affect. The closest one can come to speaking the unspeakable is through metaphor, through the pulses, rhymes, and cadences of literature. The poem, for Kristeva, is a kind of hole—not an abyssal interiority, as Daniel might have it—but a dark, confined space where depression resides and where encompassing depth tries to house the wildly unrepresentable: "Through melody, rhythm, semantic polyvalency, the so-called poetic form, which decomposes and recomposes signs, is the sole 'container' seemingly able to secure an uncertain but adequate hold over the Thing" (14). The melancholic humor is the most literary of them all, for it compels language to the ineffable. Metaphor is not

separate from melancholy, nor does it strive to explain or diagnose sadness away. It is instead the expressive and bodily actualization of affective intensity. Or, in Kristeva's words, "Literary creation is that adventure of the body and signs that bears witness to affect … It transposes affect into rhythms, signs, forms. The 'semiotic' and the 'symbolic' become the *communicable* imprints of affective reality" (emphasis mine, 22).

Part Two: The Depths

Whereas Kristeva comes to her psycho-literary theory based on her experiences as a psychoanalyst, my strategy here, before returning to *Hamlet*, is to consider the literariness of the clinic, the laboratory space where patients, enduring intense and unrelenting sadness, attempt to communicate their suffering—rhetorically, symptomatically, numerically on a scale—to a clinician. I will draw on my personal experience working in a neuropsychiatry lab at a major research university hospital, where I studied the language of patients undergoing deep brain stimulation (DBS) for major depressive disorder (MDD). To be clear, I am not offering a novel theory of clinical depression, nor am I advocating for a particular treatment. I am, however, interested in how patients speak and write of their experiences with depression and how, at times, their language takes on a supremely literary quality, suffused with environmental metaphors that evince an ecology of mind. Such metaphors, I aim to show, recover an earthly sense of sadness that fell away when early modern melancholy did. Indeed, their words approach the very earthiness of Shakespeare's *Hamlet*.

Major depression, according to the revised fourth edition of the DSM, is a psychiatric condition that not only impairs mental health but also diminishes overall

quality of life. It is characterized by low mood—often colloquially described as "feeling blue" or "down in the dumps"—and anhedonia, the inability to feel pleasure. Among those individuals with major depression, a significant percentage (approximately 10% to 20%) are classified as "treatment-resistant," meaning that their chronic depression is not relieved by at least two adequate doses of antidepressants from differing drug classes or by electroconvulsive therapy (ECT). Many patients with treatment-resistant-depression (TRD) are prime candidates for DBS, a surgical intervention that involves the bilateral implantation of pulse-generator-powered electrodes at targeted neuroanatomical sites within the subcallosal cingulate gyrus (Brodmann's area 25 or BA25), a brain region known to be implicated in mood regulation.[4] BA25, because of its connectedness to regions of the frontal cortex, amygdala, hypothalamus, nucleus accumbens, periaqueductal grey, and hippocampus, influences mood, anxiety, appetite, pain sensation, and sleep. DBS, as brain imaging data reveals, appears to modulate metabolic activity in these neuroanatomical circuits and provides relief to depressive symptoms. It's also been confirmed that chances of relapse are low and that improvements are sustained (Holtzheimer and Mayberg, 296).

While DBS has proven a safe and effective treatment option for TRD, some of its mechanisms remain to be understood. For example, because there exists no physiological measure of psychic pain or the psychosomatic manifestation thereof, researchers and clinicians must rely on patient self-reporting in order to assess cognitive health. As such, determining a patient's progress over the course of stimulation can prove challenging. Patients, lacking an adequate metric, often resort to abstract and figurative language to convey the experience and severity of depression. At each step of the DBS process—pre-

surgical screening, post-surgical interview, even during surgery itself—patients are encouraged to autogenically produce answers to questionnaires and scales such as the Hamilton Rating Scale for Depression (HRSD), the Montgomery-Asburg Depression Rating Scale (MADRS), the Positive and Negative Affect Schedule (PANAS), and the Beck Depression Inventory (BDI). However, studies have shown that depression scales, especially the HRSD, are "psychometrically and conceptually flawed" and that "new models for assessment are needed" (Bagby et. al.).[5] With outmoded measures coming up short, patient speech and writing may provide compelling indicators of emotional as well as neurobiological change.

Psychotherapeutic studies confirm that patients with depression frequently use metaphors to describe their condition and that the metaphor of depression as depth accounts for ninety percent of those (see McMullen and Conway). In its most basic terms, a metaphor, according to cognitive linguists George Lakoff and Mark Johnson, is understanding one thing in terms of another. Two types of metaphor are typically encountered in biomedical research and clinical practice. The first is therapeutic metaphor. Mostly used by clinicians, a therapeutic metaphor establishes a parallel to clarify an otherwise obscure medical concept. For instance, a therapist attempting to explain the long process of recovery to a patient might use such a metaphor to simplify it into more familiar terms: "Recovering from depression is like relearning to ride a bicycle." The second type of metaphor is cognitive. A cognitive metaphor, more commonly used by patients, associates an object to something outside of the object's native environment. For example, a patient might describe depression as a deep, dark hole. The metaphor can be divided into two domains: a target domain and a source

domain. The target domain is the object to be comprehended, which, in this case, is depression, while the source domain is the external field from which the metaphoric expression is drawn. Here, it is a deep, dark hole. Barcelona Sanchez identifies fourteen source domains for sadness, including illness, insanity, and opposition. Following suit, McMullen and Conway specify four source domains for depression—descent, darkness, weight, and captivity—overlapping with Sanchez's original fourteen.

Lakoff and Johnson lay the groundwork for an embodied sense of metaphor insofar as, they argue, the "very structure of reason itself comes from the details of our embodiment" (5). The source domains from which we derive our metaphors are the very environments we inhabit and the objects with which we come in contact. Cognition is closer to the earth than we may think, for it is grounded in the perceptual experiences of the material world. Rejecting computational models of cognition, Lawrence Barsalou turns to grounded cognition to propose that "modal simulations, bodily states, and situated action underlie cognition" (617). He elaborates on how this works:

> Some accounts of grounded cognition focus on roles of the body in cognition, based on widespread findings that bodily states can cause cognitive states and be effects of them … Most accounts of grounded cognition, however, focus on the roles of simulation in cognition … Simulation is the reenactment of perceptual, motor, and introspective states acquired during the experience with the world, body, and mind. As an experience occurs (e.g., easing into a chair), the brain captures states across the modalities and integrates them with a multimodal representation stored in memory (e.g., how a chair looks and feels, the action of sitting,

> introspections of comfort and relaxation). Later, when knowledge is needed to represent a category (e.g., chair), multimodal representations captured during experiences with its instances are reactivated to simulate how the brain represented perception, action, and introspection. (618-9)

Recent brain imaging studies seem to affirm such a grounded view. For example, in "Metaphorically thinking: Comprehending textural metaphors activates somatosensory cortex," Simon Lacey, Randall Stilla, and Krish Sathian show that textural metaphors—that is, haptic terms used figuratively such as "coarse language" or "hot-headed"—activate cortical areas of the brain that process specifically for touch, suggesting that such metaphors "have a perceptual basis" in the body; skin is coextensive with mind (417).

Conceptual metaphor theory is, therefore, a theory of cognitive ecology insofar as that it concerns the minded body's interactions with the environment. Textural metaphors stretch the experience of touch across the roughly materialized surfaces of the world, the scald of fired iron, frostbitten fingers in the snow, torn skin against the rugged edges of rock. It is, however, not in metaphors of touch but in metaphors of depression that I've seen figural language become the most ecological. For individuals undergoing DBS for TRD, metaphors of depth do not merely refer to an abstract space of emotional lowness, a black abyss inhabited by nothing. These deep, dark spaces of negative affect are ecologically cosmopolitan sites buzzing with life: mineral, vegetal, and animal. The deepest depressions sometimes appear the most environmental. One patient described depression as a rain-slicked hole in the earth with sides of slippery stone covered in moss. He found himself at the bottom of this dark pit, keeping company with insectile lowlifes. Scaling the sides of such a hole proved, for him, a difficult task. He could only climb so

far before sliding down again. Another patient likened her emotional descent to the slow suck of quicksand, pulling her deeper and deeper into the earth inch by inch: "I felt like I was living in quicksand, and I was going down and down and down, and there was nothing I could do to get out of it. It was a feeling of absolute desperation like I was drowning." A third described a low plot of land shrouded in dense fog that prevented him from connecting with anyone or, for that matter, anything. One particularly eloquent woman imagined depression as a clam-like shell that isolated her from her exterior environment yet could open at any moment to the earth's inevitable assault. And another patient metaphorized depression as drowning in the depths of the sea. "Even my brain became watery," she said. While most of the patients' depressive metaphors share an earthly (and sometimes aqueous) sense of vertical depth, each is distinct in its articulation, with its own diverse set of organic as well as inorganic players who share in the distributed experience of sadness. If conceptual metaphor theory holds true for depression, as it seems to for haptic metaphors, then in what bodily ways is emotion felt? The feeling of oppressive weight (the Latin *deprimere* means to "press down") that Kraepelin observed? Does earthly depth have a somatosensory correlate? Do metaphors of "feeling blue" activate the visual cortex? In what ways does speaking the terrain of sadness enjoin our brains to the multisensory interactions of an ecology?

Part Three: Brain Dust

The remainder of this chapter is devoted to the ways in which Shakespeare radicalizes the association of melancholy and earth into a more ontological understanding of affective dirt. I see the depressive metaphors that patients use as restoring a lost sense

of terrestrial lowness to pathological sadness. Indeed, I argue that their affective and earthly depressions come to closely resemble Hamlet's, especially in the graveyard scene, where Hamlet, against Gertrude's advice and with "veiled lids" still searching "in the dust," finally learns what resides within the skull: dirt. In *Hamlet without Hamlet*, Margreta de Grazia performs much of the intellectual and archival labor in mapping the correspondences between man and dirt. Looking to the etymology of *mole*, she uncovers a history that crosses the figure of the human with the animal as well as the earth itself: "The spelling and pronunciation of *mole* and *mold* were interchangeable in 1600; *mole, mould, moulde,* and *moule* could refer to both the burrowing mammal and the earth in which it burrowed" (29). The animal and its dwelling are the same; earth gives structure to the hole. Drawing upon the Hebraic tradition, de Grazia reminds us of the conventional association of flesh and earth, the circular *telos* of emerging from clay at birth and then returning to dust at death: "Adam, the first man, was named for the element from which he was made (*adamah* = clay)" (30). Following suit, Elizabeth's *Book of Common Prayer* scripts earthly flesh into the orations of burial rites:

> Thou only art immortal, the creator and maker of mankind;
> And we are mortal, formed of the earth, and unto earth shall
> We return. For so thou didst ordain when thou createdst me,
> Saying, "Dust thou art, and unto dust shalt thou return." All
> We go down to the dust; yet even at the grave we make
> Our song: Alleluia, alleluia, alleluia. (481-2)[6]

Whereas in the *Book of Common Prayer* man's return to dust is occasion for song, a solemn celebration of a life well lived, for Hamlet, dust is a reminder of our "base uses,"

a material source of abjection that flattens the hierarchy of human exceptionalism (5.1.209). He follows the humiliating decomposition of the royal Alexander's body from burial to earth and then, at last, to the stopper on a cask of ale:

> Alexander died, Alexander was buried,
>
> Alexander returneth to dust; the dust is earth; of earth
>
> We make loam; and why of that loam whereto he
>
> Was converted might they not stop a beer barrel? (5.1.216-9)

Hamlet's perverse elegy instrumentalizes Alexander's mortal remains. The material transformation from flesh to earth registers the affective dimension of such "humiliation," a term that etymologically registers not only the Latinate *humiliare*, "to bring low," but also the lowness of dirt, of *humus*. De Grazia explains, "These semantic overlays between man and clay, human and humus, point toward … [t]he metaphorics of the play insist[ing] upon the interchangeability of the two materials" (31, 33). Hamlet elaborates upon the material basis of such metaphors in a second elegy to yet another nobleman, the great Roman emperor Caesar:

> Imperious Caesar, dead and turn'd to clay,
>
> Might stop a hole to keep the wind away:
>
> O, that that earth, which kept the world in awe,
>
> Should patch a wall to expel the winter flaw! (5.1.220-4)

According to Hamlet, such debasement is our cosmic destiny. Much like "the noble dust of Alexander … stopping a bunghole," Caesar's keeps the cold out, preserving the warmth of the *oikos* (Greek for house) by means of a sustainable and compostable ecology (the prefix *eco-* deriving from *oikos*) that recycles the human dead (5.1.210-1).

Jim Ellis argues that loam in *Hamlet* operates according to a principle of Lucretian atomism. In *De Rerum Natura*, Lucretius records a materialist cosmology in which matter is the effect of atomic collisions, indestructible particles randomly swerving into one another. Ellis likens Hamlet's "quintessence of dust" to these elementally refined yet nonetheless errant atoms (2.2.278). Their movements, he argues, show us that:

> [t]o paraphrase Celine Dion, our dirt will go on. It makes more sense, however humbling, to think of the reverse: we are a temporary formation, an assemblage of matter that is itself infinitely old, and which will carry no trace of having been a part of us after we return to the dirt. Or more accurately: after we leave the dirt, and the dirt that was temporarily us continues its progress through the universe. This is the ultimate indifference of the material world to our existence. (10)

The temporality of dirt, spanning eons back to stardust, cares little for the reigns of kings. Hamlet knows that its scale is long, approaching the unfathomable, refusing anthropocentrism, and stretching the very logic of life's *telos*. It is also, according to Ellis, indelibly queer, invoking Elizabeth Freeman's argument that digging in dirt is "mining … for signs of an undetonated energy from past revolutions" (Ellis, 11; Freeman xvi). Dirt's indifference is not inaffective. It materializes a slow dynamism that Jeffery Jerome Cohen, following Aldo Leopold's injunction to "[think] like a mountain," witnesses in the hardened liveliness of stone, " […] the profundity of a long past. A meshwork of connection, the mountain entangles every struggling life and imbues even stone with vitality" (2). This worldly "meshwork" is dirt's ecology, implicating a

multiplicity of organic as well as inorganic forms, as it simultaneously mortifies the supposed primacy of human flesh.

Shakespeare's mundane ecology (from the Latin *mundus* for "world") in *Hamlet* involves more than just man and dirt. Animals especially have a vital role to play. Dead human flesh, en route to becoming earth, passes through the digestive tracts of multiple nonhuman species as it also inevitably invokes the troublesome ethics of eating, a topic I broach in my third chapter through an emergent discourse on parasitism. Earlier in the play, when Claudius summons Polonius, the young prince Hamlet, having recently murdered the man, replies that he is "[a]t supper." This supper, however, is a feast not for a king's counselor but for the animal scavengers that devour his corpse:

> Now where he eats, but where he is eaten: a certain
> Convocation of politic worms are e'en at him. Your
> Worm is your only emperor for diet: we fat all
> Creatures else to fat us, and we fat ourselves for
> Maggots. (4.3.22-6)

The connection between flesh and earth persists, yet this time Shakespeare introduces an intermediary figure, an animal interlocutor that translates human to humus. MacInnes describes this scene of multispecies gathering, consumption, and digestion according to a fundamental tenet of biology: "Corruption is not an unfortunate telos of bodies but an embodiment of the basic principles of life itself. In the face of this highest power, human social distinctions become meaningless" (268). MacInnes argues for a biological and, indeed, zoological source for the corruption that materializes "something … rotten in the state of Denmark "(1.4.100). What is biological is also political; worm and emperor trade

places. Hamlet plays on the semantic polyvancy of the Diet of Worms—a council convened by the Holy Roman emperor in 1521 in the German city of Worms—to literalize the gross eating habits of nematodes. Hamlet observes the perversity of this sad fact, that humans eat other animals eventually to become fodder for insects.

Also worth mentioning is that early modern "worms" could also double as snakes, as MacInnes reminds us, "The very words used to describe such creatures in the early modern period are ambiguous in ways that underline the importance of corruption and putrefaction as organizing principles in this zoological discourse … few semantic barriers seemed to exist across the whole spectrum of such (creeping? squiggling?) creatures" (256). In *Paradise Lost*, John Milton famously describes Satan as a "false worm," but it is in Milton's primary source for his epic poem, namely the Book of Genesis, where we find the serpent condemned to a diet of dust: "You will crawl on your belly and you will eat dust all the days of your life" (Genesis 3:14). In other words, worms are fated endlessly to consume man's deathly residue, for soon after God curses the serpent, he damns mankind to earthly toil and, worst of all, to death: "By the sweat of your brow you will eat your food until you return to the ground, since from it you were taken; for dust you are and to dust you will return" (Genesis 3:19). In my second chapter, which focuses on *Paradise Lost*, I account more fully for the triple entanglement of earth, snake, and human in the garden.

The material passage of noble flesh goes further in *Hamlet*, transferred between even more intermediary creatures. Hamlet continues, "A man may fish with the worm that hath eat of a king and cat of the fish that hath fed of that worm" (4.3.30-2).[7] The decomposing body travels through diverse taxonomies of animal life (insect, ichthyic,

feline) as well as through different telluric environments (terrestrial, aqueous, digestive) in its eventual return to the human body, not in its original, uncorrupted form, but as chyle moving "through the guts of a beggar" (4.3.35). What Carolyn Sale sees as "the text's tendency to construe everything as the product of material exchanges or friction between material bodies" has somewhat of a flattening effect—democratizing, if you will—across species and social category, as "the by-product of a material aesethetic—that is, an aesthetic that everywhere turns one form into a 'baser' or simpler one … to ensure the widest possible communicability" (148-9). The transferences of flesh constitute the journey of melancholy not only through the Empodoclean cosmos, where earth materializes melancholy across the species border—Paster's "shared terrain of affects" among humans and animals—but also in the morbid convolutions of Hamlet's melancholic rumination. His obsessive fascination with the body's decay leads his thoughts, nearly every single time, into the ground, where he inevitably encounters the subterranean creatures that spend their lives there. In *A Discourse of the Preservation of Sight: of Melancholike Diseases: of Rheumes and of Old Age* (1599), the physician André du Lauren provides a description of a melancholic man who shares an uncanny resemblance to de Grazia's burrowing *mole*:

> The melancholike man properly so called, (I meane him which that the disease in the braine) is ordinarily out of heart, always fearefull and trembling, in such sort as that he is afraid of euery thing, yea and maketh himselfe a terrour vnto himselfe, as the beast which looketh himselfe in a glasse; … Hee is become a sauadge creature, haunting the shadowed places, suspicious, solitarie, enemie to the Sunne, and one whom nothing

> can please, but onely discontentment, which forget vnto it selfe a thousand false and vaine imaginations. (82)

The melancholic man transforms into a "sauadge creature" as he withdraws into his hole, much like the mole that, as de Grazia observes, "burrows to seek not an exit but food; once it is out of its element, it is exposed to predators and cannot survive long" (29). This food sought after by the mole, according to Edward Topsell in *The History of Four-footed Beasts*, is comprised primarily of worms: "For by digging and removing the earth they take Wormes, and hunt after victuals" (390). In *Animal Bodies, Renaissance Culture*, Karen Raber argues, "Animals populate Hamlet's language to signify the 'common' fate of all human beings," but I would also add that Hamlet's melancholy, as much as the bodily processes of eating and dying, joins the figure of the human to the animal's terrestrial ecology (118).

As much as the body is linked to its material substrate in *Hamlet*, so too is cognition. While Claudius connects mindedness to earthiness in his brief consideration of "the people muddied, / Thick and unwholesome in their thoughts," the earth-brain connection is made most vividly graveside, notably in the memento mori of Yorick's skull (4.5.86-7). The gravedigger hollows out a "pit of clay" not only as a grave but also as an affectively negative space of vertical depth where to feel loss, to grieve the passage of the body into dirt (5.1.98). Hamlet and Horatio enter the scene to find the gravedigger evicting wayward bones from the pit with the swift swing of his shovel, scattering fragments of skeleton around the yard. Appalled and perhaps even bemused by the digger's nonchalance (the man playfully sings as he works), Hamlet sympathizes with the high-flung and carelessly knocked-about bones: "Did these bones cost no more the

breeding but to play at loggets with them? Mine ache to think on't" (5.1.94-5). The osseous matter of Hamlet's body hurts for that of the dearly departed, a sympathetic transversal of affect that seems to un-deaden the dead. His rueful imagining of the bones' owners further animates their remains: "the pate of a politician," "a courtier, which could say 'Good morrow, sweet lord,'" "my Lord Such-a-one that praised my Lord Such-a-one's horse" (5.1.80, 84-7). Through Hamlet's eyes, the graveyard, which at first may seem like a bleak and irreducibly dead space, takes on the vibrant singularity of Jane Bennett's garbage tableau in *Vibrant Matter*; "On a sunny Tuesday morning on 4 June on the grate over the storm drain to the Chesapeake Bay in front of Sam's Bagels," Bennett encountered bits of trash—"[g]love, pollen, rat, cap, stick"—an assemblage of stuff that, to her surprise, proved less inert and more "evanescent," revealing in the glimmer of the sun "the extent to which all bodies are kin in the sense of inextricably enmeshed in a dense network of relations" and the degree to which "human individuals are themselves composed of vital materials" (4; 10; 13, 11).

The graveyard's scattered skulls have a similarly seductive draw on Hamlet, enticing him to look closer, to glance inside, to finger their cavities and curves. He ponders the organs that once throbbed within those crania, "That skull had a tongue in it and could sing once" (5.1.77-8); however, he finds only dirt where the brain should be, "Is this the fine of his fines and the recovery of his recoveries, to have his fine pate full of fine dirt?" (5.1.109-111). Even as he again reinforces the embarrassing trajectory from human to earth, Shakespeare's brain dust, I suggest, most explicitly materializes the link between dirt and cognition. In this regard, a hole in the head is not so different from a hole in the ground, a "pit of clay," where melancholy takes hold. The dirt-filled cranium

upon which Hamlet gazes is filled not just with the remants of a human brain, but with melancholic, earth-based humors.

Negative emotion as vertical depth deconstructs the inside/outside, interior/exterior of human embodiment through material coextension; excessive black bile, which floods the pathologically humoral body, sinks the brain into a terrestrial depression. According to Galenic-Hippocratic medical philosophy, melancholy primarily affects the brain, while the heart, as the seat of emotion, is its secondary site. The sixteenth-century physician Thomas Wright explains in *The Passions of the Minde*:

> The cause why sadnesse doth so move the forces of the body, I take to be, the gathering together of much melancholy blood about the heart, which collection extinguisheth the good spirits, or at least dulleth them; besides, the heart being possessed by such an humour, cannot digest well the blood and spirites, which ought to be dispersed thorow the whole body, but converteth them into melancholy, the which humour being colde and drie, dryeth the hole body, and maketh it wither away. (62)

Burton further specifies its primary location within a particular chamber, not in the heart but in the brain's anterior ventricle (1.164.20-165.6). *Melaine-kole*, if not purged from the body by the spleen, leaves behind muddy deposits, cold and dry bilious matter that, when heated, releases noxious fumes to the brain. Claudius identifies in Hamlet a similar cardio-cerebral system, where melancholy, "this something settled-matter," begins "in [Hamlet's] heart / Whereon his brains still beating puts him thus / From fashion of himself" (3.1.187-9). "That within," for Hamlet, is also that without. Early moderns understood their humoral bodies as semi-permeable containers open unto the outside

world and affected by environmental forces. Not only were early modern bodies governed in part by climate and geography, but also they functioned as microcosms of the world at large. The body actualizes a vast array of scalar correspondences ranging from the primordial elements to the planets. In *Humoring the Body*, Paster shows that "the passions—thanks to their close functional relation to the four bodily humors of blood, choler, black bile, phlegm—had a more than analogical relation to the liquid forces of nature, because, in this cosmology, the stuff of the outside world and the stuff of the body were composed of the same elemental materials" (4). Emotions, consequently, were bound and subject to forces outside the self.

As such, the possible environmental conditions of the graveyard—its altitude, proximity to water, and the chemical composition of the soil—might further shape Hamlet's melancholy. Paster points us to Thomas Nashe's *The Terrors of the Night*, where he

> likens "the thick steaming fenny vapours" of bodily melancholy to wastewater: "even as slime and dirt in a standing puddle engender toads and frogs and many other unsightly creatures, so this slimy melancholy humor, still still [*sic*] thickening as it stands still engendreth many misshapen objects in our imaginations." (217)[8]

Like amphibians spontaneously generated from muck, the melancholic mind imaginatively spawns even more distorted and monstrous figures. Moreover, Burton warns that melancholy is borne by "bad air," to which he devotes an entire subsection in *The Anatomy of Melancholy*. Air is inhaled into the body, Burton explains, and therefore affects the humors, particularly if it is "thick, cloudy, misty, foggy air, or such as come

from fens, moorish grounds, lakes, muck-hills, draughts, sinks, where any carcasses, or carrion lies, or from whence any stinking fulsome smell comes." Burton's description of a melancholic landscape resembles Shakespeare's stinking burial ground; casting aside Yorick's skull, Hamlet fusses of its rotten stench, "And smelt so? Pah!" (5.1.207). Recalling "Galen, Avicenna, Mercurialis, new and old physicians," who agree that "such air is unwholesome," Burton argues that decaying flesh produces bad air and, as a result, a melancholic disposition. He further specifies that those who are prone to melancholia are more vulnerable to the effects of bad air. Carla Mazzio notes, "That 'the history of air' involves the history of affect is no surprise. For air, the element long linked with blood in the humoral system was part and parcel of a psycho-phsyiological economy that … was still powerfully operative in Shakespeare's England" (154). In the graveyard, earth and air conspire to negative affect, an elemental collusion of soil and atmosphere that materializes the ecological conditions of melancholy.

Hamlet's melancholy moves graveside to grave when he discovers that the "pit of clay" is fitted not for another but for Ophelia, after her "muddy death" at the bottom of a "weeping brook" where

> LAERTES: Alas, she is drowned.
>
> QUEEN: Drowned, drowned. (4.7.208-10)

Her passage from life to death enacts a number of ecologic transformations, creaturely as well as botanic. Gertrude recounts an accident that intimates suicide within the liquid depths of the "glassy stream":

> Her clothes spread wide,
>
> And mermaid-like awhile they bore her up,

> Which time she chanted snatches of old lauds,
>
> As one incapable of her own distress
>
> Or like a creature native and endued
>
> Unto that element. (4.7.200-5)

Ophelia's garments fan out in the water, rendering her form strange and "mermaid-like," such that it seems she was naturally shaped for an aquatic environment. Her descent to mud is slow, almost in suspension, as her gown keeps her afloat for just a moment longer. Ophelia's body seems to resist or, at the very least, delay its return to earth, for even at her funeral, as her corpse is lowered into the depths, her brother Laertes commands his men, "Hold off the earth awhile" (5.1.261). He knows, however, that earth cannot be commanded; over time, it will collect and augment itself with Ophelia's decomposed remains. He then blesses the earth that she will eventually become, "And from her fair and unpolluted flesh / May violets spring" (5.1.249-50).

Seeking to prolong his final moment with Ophelia, the grief-stricken Laertes leaps into the grave to join her inexorable decay to dirt:

> Now pile your dust upon the quick and dead,
>
> Till of this flat a mountain you have made
>
> T' o'ertop Pelion or the skyish head
>
> Of blue Olympus. (5.1.263-6).

Laertes desires the massive expansion of dirt, piled higher and higher such that it exceeds Mount Pelion, the grandiose mountain of Greek myth on which the giants placed Mount Ossa in an effort to overtake the colossal dwelling of the gods, Mount Olympus. The hyperbole of Laertes' geologic metaphorics registers the intensity of his sadness. Not to

be outdone, Hamlet, observing from aside, emerges to challenge Laertes' sincerity or, more specifically, the degree of his sincerity:

> What is he whose grief
> Bears such an emphasis, whose phrase of sorrow
> Conjures the wand'ring stars and makes them stand
> Like wonder-wounded hearers? This I,
> Hamlet the Dane. (5.1.266-7)

It is Hamlet's and not Laertes' melancholic words that summon the stars and planets to bear witness to grief. Laertes then emerges from the grave and strangles Hamlet's neck. Hamlet responds by denying his choleric temperament—a humoral excess of yellow bile—yet claiming something far worse:

> I prithee take thy fingers from my throat,
> For though I am not splenitive and rash,
> Yet I have something dangerous,
> Which let thy wisdom fear. Hold off thy hand. (5.1.274-7)

In the back-and-forth of who loves Ophelia best and grieves her death the worst, Hamlet's rhetoric turns to numeric figures as quantitative proof of his sincerity, "I loved Ophelia. Forty thousand brothers / Could not with all their quantity of love / Make up my sum," (5.1.285-7) as he challenges Laertes to prove the extremity of his grief, "Show me what thou't do / Woo't weep, woo't fight, woo't fast, woo't tear thyself, / Woo't drink up eisel, eat a crocodile?" (5.1.290-2). De Grazia argues for the theatricality and not necessarily for the sentimentality of Hamlet's wild behavior, "It is not a matter of who loves or mourns Ophelia most but of who can better rise to the rhetorical and histrionic

challenge," a match-up in which she crowns a victor, "Hamlet succeeds in outdoing Laertes in both word and deed" (39). Many critics have interpreted this particular moment in *Hamlet* as demonstrative of a widespread and systemic form of violent masculinity that enacts conflicts of territoriality on and through the figure of the woman. Katherine Bootle Attie, for example, suggests, "Hamlet presents the episode as resulting from an upsurge of tyranny within; the overreaching rhetoric of mountains reflects a groundswell of competitive, masculine anger" (93). While I don't disagree with such assessments, I maintain that Hamlet's behavior is motivated by the affective materiality of melancholy as much as it is by masculine politics, and for this reason, I guide my analysis around formations of earth, not deliberately meaning to circumvent important concerns about gender in this and other moments in the play.[9]

De Grazia points out that this action likely played out on the Shakespearean stage around the trap door, an artificial space of vertical depth built for secret entrances and exits as well as for the imagined Danish landscape: "In the graveyard scene, everything—props, dialogue, gesture—combines to convert the floorboards to elemental earth … This concave rectangle at the center of the stage repeatedly serves to represent the object of conflict" (37). The depth of melancholy as much as that of the earth takes on a visual as well as material configuration within the theater itself. What then does it mean for Laertes to call for mountains upon mountains of earth to cover the grave, represented by the trap door, where he wishes to be buried alive alongside his dead sister? The concave space of the earth is reversed, impossibly so, and turned convex toward the sky. Seeking to "outface" Laertes, the lovelorn prince demands even more atop the grave now to be

fitted for three, a communal resting place, where he plans to forever join the bonded siblings:

> To outface me with leaping in her grave?
> Be buried quick with her, and so will I.
> And if thou prate of mountains, let them throw
> Millions of acres on us, till our ground
> Singeing his pate against the burning zone,
> Make Ossa like a wart. (5.1.295-300)

"Millions of acres" of earth certainly outdoes Laertes' stack of mountains, but the dermatological dangers of such heights are clear; Hamlet's mountain will burn its head against the sun, even as it renders Mount Ossa a wart, a mere aberration on the earth's skin. "The topographical and the dermatological intermesh," de Grazia observes, as the matter of melancholy accumulates in unimaginable excess (40). This surplus far exceeds the logics of early modern humoral biology. What was once an earthly depression, actualizing the sad loss of life and the eventual disintegration of the body, suddenly transforms upward and away; the sinking and drowning body fated to a "pit of clay" reverses to a colossus of dirt. Earth is both the immanent body's ascension and descent. Vertical depth turns to the firmament, below to above, subterranean to surface, but the matter is still melancholic; illness remains unresolved. The mountain, borne from a "tow'ring passion," Hamlet admits, becomes yet another metaphor signifying negative affect. Melancholy, in *Hamlet*, proves multidirectional and refuses a coherent ontology. Even in its most earthly manifestations, it demonstrates, to repeat Daniel's byword, "a consistent incoherence."

Like Kristeva, who argues that the poem gives structure to feeling, I believe that the linguistic and material components of early modern theater convey historically situated ways of encountering and, more importantly, imagining cognitive experience. I follow Amy Cook, who, in "Staging Nothing: *Hamlet* and Cognitive Science," draws on conceptual blending theory (CBT) to account for cognitive phenomena in the theater. Drawing on the work of Gilles Fauconnier and Mark Turner, she explains conceptual blends as "constructions of meaning based on projection of information from two or more input spaces to a blended space, such that the blended meaning contains information and structure from more than one place" (85). Therefore, a metaphor can be multiple, extended, perhaps even tangled in the paradoxes of the blend. "What is so rich about this theory," Cook enthuses, "is how it explains so much about creative elaboration of metaphoric thought." Multiple source domains can shape metaphors of melancholy, as we see in *Hamlet*. That said, unpacking the metaphorics of a cognitive illness as serious and debilitating as depression necessitates "bedside" sensitivity to language and a critical awareness that depression itself is a material-metaphor; its constructions are linguistic as much as they are neurobiological.

In this chapter, I briefly mapped the historical overlays and disjunctions of early modern melancholy with the West's understanding of clinical depression before locating Hamlet's melancholy in an extended series of terrestrial metaphors to show that negative emotion has a bodily as well as material basis deeply embedded within the earth. By juxtaposing representations of melancholy in *Hamlet* with the narratives of depressed patients in the clinic, I aspire to a cognitive ecology of humans, nonhumans, and stories that comprise a complicated terrain of feeling, which hollows out depressions and raises

mountains alike in a futile attempt to express the very deepest and the very darkest places of sadness. Sometimes the metaphor of depression is best described by another metaphor, dug up from the soil: dust to be brushed away in order to unearth the hidden contours of a subterranean ecology that has been scrubbed from today's medical books yet persists in early modern sources.

To conclude, I will recount one more patient's clinical narrative of depression in which the primary metaphor is, in fact, not a depression but a mountain. At her pre-surgical interview, when asked to describe her depression, she answered, "It is a mountain, and my husband is on top of the mountain. I am at the bottom. Every one else is on the other side." Seven weeks after deep brain stimulation, she began to see improvements in her mood: "I have more energy and a desire to do things. It feels good to accomplish things. It's hard to describe, but my desire to do things makes me feel better." She then added, "I feel like I'm climbing up that mountain. There's a brightness, but it's not as bright as I would like."

Works Cited

Arikha, Noga. *Passions and Tempers: A History of the Humours*. New York: Harper Perennial, 2007.

Aristotle. *The Complete Works of Aristotle*. Vol 2. Ed. Jonathan Barnes. Trans. E.S. Forster. Princeton: Princeton University Press, 1984.

Attie, Katherine Bootle. "Tragic Proportions: The Art of Tyranny and the Politics of the Soul in *Hamlet*." *English Literary Renaissance* 44.1 (2014): 77-107.

Babb, Lawrence. *The Elizabethan Malady: A Study of Melancholia in English Literature from 1580 to 1642*. East Lansing: Michigan State University Press, 1951.

Bagby, RM et. al. "The Hamilton Depression Rating Scale: has the gold standard become a lead weight?" *American Journal of Psychiatry* 161.12 (2004): 2163-2177.

Barsalou, Lawrence W. "Grounded Cognition." *Annual Review of Psychology* 59.1 (2008): 617-645.

Bennett, Jane. *Vibrant Matter: a political ecology of things*. Durham: Duke University Press, 2010.

Burton, Robert. *Anatomy of Melancholy*. Ed. Holbrook Jackson. New York: New York Review of Books, 2001.

Cohen, Jeffrey Jerome. *Stone: An Ecology of the Inhuman*. Minneapolis: University of Minnesota Press, 2015.

Cook, Amy. "Staging Nothing: *Hamlet* and Cognitive Science." *SubStance* 35.2 (2006): 83-99.

Cvetkovich, Ann. *Depression: a public feeling*. Durham: Duke University Press, 2012.

Daniel, Drew. *The Melancholy Assemblage*. New York: Fordham University Press, 2013.

Dinshaw, Carolyn. *Getting Medieval: Sexualities and Communities, Pre- and Postmodern*. Durham: Duke University Press, 1999.

Du Laurens, André. *A discourse of the preseruation of the sight; of melancholike diseases; of rheumes, and of old age*. London: Imprinted by Felix Kingston, 1599.

Ellis, Jim. "The Temporality of Dirt: Queer Materiality in Jarman's *Modern Nature*." *English Studies in Canada* 40.2 (2014): 9-13.

Escolme, Bridget. *Emotional Excess on the Shakespearean Stage: Passion's Slaves*. Bloomsbury: New York, 2014.

Felsky, Rita. "Context Stinks." *New Literary History* 42.4 (2001): 573-591.

Habinek, Lianne. "Altered States: *Hamlet* and Early Modern Head Trauma." *Embodied Cognition and Shakespeare's Theatre: The Early Modern Body-Mind*. Ed. Laurie Johnson et. al. New York: Routledge, 2015. 195-215.

Hillman, David. "Visceral Knowledge." *The Body in Parts: Fantasies of Corporeality in Early Modern Europe*. Eds. Hillman and Carla Mazzio. New York: Routldge, 1997.

Holtzheimer, Paul D. and Helen S. Mayberg. "Deep Brain Stimulation for Psychiatric Disorders." *Annual Review of Neuroscience* 34 (2011): 289-307.

Johnson, Laurie, John Sutton, and Evelyn Tribble. "Re-cognising the Body-Mind in Shakespeare Theatre." *Embodied Cognition and Shakespeare's Theatre: The Early Modern Body-Mind*. Eds. Johnson et. al. New York: Routledge, 2014. 1-12.

Kristeva, Julia. *Black Sun: Depression and Melancholia*. Trans. Leon S. Roudiez. New York: Columbia University Press, 1989.

Lacey, Simon, Randall Stilla, and Krish Sathian. "Metaphorically feeling: Comprehending textural metaphors activates somatosensory cortex." *Brain and Language* 120.3 (2012): 416-421.

Lakoff, George and Mark Johnson. *Metaphors We Live By*. Chicago: University of Chicago Press, 1980.

—. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic, 1999.

Lawlor, Clark. *From Melancholia to Prozac: a history of depression*. New York: Oxford University Press, 2012.

MacInnes, Ian. "The Politic Worm: Invertebrate life in the Early Modern English Body." *The Indistinct Human*. Eds. Vin Nardizzi and Jean Feerick. New York: Palgrave, 2012. 253-272.

Mazzio, Carla. "The History of Air: *Hamlet* and the Trouble with Instruments." *South Central Review* 26.1 (2009): 153-196.

McMullen, Linda and John Conway, "Conventional Metaphors for Depression." *The Verbal Communication of Emotions: Interdisciplinary Perspectives*. Ed. Susan Fussell. New York: Routldges, 2002.

Menely, Tobias. "Animal Signs and Ethical Significance. Expressive Creatures in the British Georgic." *Mosaic* 39.4 (2006): 111-127.

Nutton, Vivian. "Logic, Learning, and Experimental Medicine." *Science* 295 (2002): 800-801.

Paster, Gail Kern. *Humoring the Body*. Chicago: Chicago University Press, 2004.

Pollard, Tanya. *Drugs and Theater in Early Modern England*. New York: Oxford University Press, 2005.

Raber, Karen. *Animal Bodies, Renaissance Culture*. Philadelphia: University of Pennsylvania Press, 2013.

Sale, Carolyn. "Eating Air, Feeling Smells: 'Hamlet's' Theory of Performance." *Renaissance Drama and Performance* 35 (2006): 145-168.

Sanchez, Barcelona. "On the concept of depression in American English: A Cognitive Approach." *Revista Canaria de Estudios Ingleses* 12 (1986): 7-33.

Sedgwick, Eve Kosofsky. *Touching Feeling: Affect, Pedagogy, Performativity*. Durham: Duke University Press, 2003.

Shakespeare, William. *As You Like It*. *The Complete Pelican Shakespeare*. Ed. Stephen Orgel and A.R. Braunmuller. New York: Penguin Group, 2002.

—. *Hamlet*. Ed. Barbara A. Mowat and Paul Werstine. New York: Simon & Schuster, 1992.

Shaw, A B. "Depressive illness delayed Hamlet's revenge." *Medical Humanities* 28.2 (2002): 92-96.

Topsell, Edward. *The History of Four-footed Beasts and Serpents and Insects*. Vol. 1. London: Printed by E. Cotes, 1658.

Wilson, Elizabeth. *Gut Feminism*. Durham: Duke University Press, 2015.

Wright, Thomas. *The passions of the minde in generall*. London: Printed by Valentine Simmes for Walter Burre, 1604.

---

[1] Working against this assumption in *Touching, Feeling*, Sedgwick seeks to undo the heuristic habits of such critics by turning to the work of Silvan Tomkins, a mid-century cognitive scientist and affect theorist, who sought to organize subjectively experienced feelings into discrete affective categories: surprise, joy, interest, anger, fear, distress, disgust, shame, and dismell. Each affect is made recognizable by the subject's

response—specifically, facial expression—to certain stimuli. Tomkin's understands affect to correspond to a biological basis of feeling; that is, genetically prewired mechanisms built into all humans (and perhaps some animals too) which, when activated, catalyze subsequent cascades of psychosomatic events.

[2] Babb suggests that "Englishmen were not troubled by the opposition between the two concepts of melancholy. They accepted both," (180) to which Daniel replies, "How could both Galen and Aristotle be correct? How could melancholy be both a numbingly ordinary illness and the sacred sign of divine favor and personal excellence?" (23).

[3] My impulse is to follow this question with Bruno Latour's rejoinder, *We Have Never Been Modern*, which titles his study on "the modern constitution" and the ways in which the very concept of modernity is made multiple, hybrid, "impure" even as it seeks to define itself its identity—to secure its purity--against pre and postmodernity. See Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge: Harvard University Press, 1993).

[4] Helen Mayberg notes, "Across studies of chronic antidepressant treatment using commonly prescribed medications," including selective serotoninc reuptake inhibitors (SSRI), "prefrontal cortical changes are the most consistently reported, with normalization of frontal cortex overactivity and underactivity both described," implicating the subcallosal cingulated gyrus as a key site for pharmacotherapy (719). See Mayberg, "Targeted electrode-based modulation of neural circuits for depression," *The Journal of Clinical Investigation* 199 (2009): 717-25.

[5] Bagby and his colleagues find that many items on the Hamilton depression scale are "poor contributors to the measurement of depression severity" and that the format for response is inadequate, disallowing the patient from precisely expressing his or her symptoms.

[6] These tropes from *The Book of Common Prayer* are reiterated and elaborated in Guiderius' song in Shakespeare's *Cymbeline*:

> Fear no more the heath o' the' sun
> Nor the furious winter's rages
> Thou thy worldly task hast done,
> Home art gone and ta'en they wages.
> Golden lads and girls all must,
> As chimney sweepers, come to dust. (4.2.258-263)

[7] Because many modern editions of *Hamlet* combine text from the Second Quarto, First and Second Folios, there is disagreement whether this passage reads as "cat of the fish that hath fed of that worm" or as "eat of the fish that hath fed of that worm," in which case the fisherman consumes the fish instead of the cat. Nevertheless, the general idea remains that dead human matter passes through the digestive systems of "lowly" animals, such as worms and fish, as well as "lowly" men, such as beggars.

[8] Nashe's melancholic scene of "fenny vapours" that gives rise to "toads and frogs" recalls a particular moment in Shakespeare *Othello*, when the eponymous character laments the swampy font of his heart:

> But there, where I have garner'd up my heart
> Where either I must live, or bear no life;
> The fountain from the which my current runs,
> Or else dries up; to be discarded thence!
> Or keep it as a cistern for foul toads
> To knot and gender in! (4.2.57-62)

[9] Hamlet's misogyny has been well documented in the play's critical corpus. Siobahn Keenan notes, *"Hamlet*'s representation of women has been interpreted in similarly topical terms. Growing discontent with Elizabeth I's rule in the 1590's was matched by the resurgence of the political misogyny, which characterized the early years of her reign. Some critics detect a similar misogyny in *Hamlet* and the view of its protagonist" (94). See Keenan, *Renaissance Literature* (Edinburgh: Edinburgh University Press, 2008).

CHAPTER 2

MILTON'S PLANT EYES: MINIMAL COGNITION, SIMILITUDE, AND SEXUALITY IN *PARADISE LOST*

"The course pursued by the radicle in penetrating the ground must be determined by the tip; hence it has acquired such diverse kinds of sensitiveness. It is hardly an exaggeration to say that the tip of the radicle thus endowed, and having the power of directing the movements of the adjoining parts, acts like the brain of one of the lower animals; the brain being seated within the anterior of the body, receiving impressions from the sense-organs, and directing the several movements."

—Charles and Francis Darwin, *The Power of Movement in Plants*

PART ONE: ROOT BRAINS

Whereas Charles Darwin's early career was devoted primarily to geological study and to the collection of data that would eventually serve as the basis for *On the Origin of Species*, his later work turned to the subject of plants. With his son Francis, the elder Darwin published one of his final studies, *The Power of Movement in Plants*, which makes the controversial claim that plants behave as do the lower animals. Specifically, the Darwins argue for what science now calls the root-brain hypothesis, the postulation that a brain-like organ located in the anterior pole of the plant body controls growth and tropism. This underground brain, or "phytocerebrum," acts cognitively insofar as it is able to sense its environment and convey information to other parts of the plant; that is, in their words, "it transmits an influence to the upper adjoining part, causing it to bend" (572). Plant neurobiologists have recently taken up *The Power of Movement in Plants* as a corrective to the Aristotelian concept of plants as automatically or passively nutritive.[1] Whereas classical animals possess appetite, locomotion, and sensation (in addition to these, humans are endowed with reason), plants are limited to nutrition, mere absorption

for the primal sake of reproduction. To the contrary, the Darwins unearth cognitive organisms highly sensitive to their environments, capable of detecting and responding to stimuli, and equipped with brain-like organs that regulate behavior. Plants are, at the very least, minimally cognitive.

Adapted from theories of embodied cognition, minimal cognition has gained traction in the cognitive sciences not only as a critique of anthropocentric and brain-bound models of cognition but also as a more expansive approach to understanding the sensorimotor capacities of what the early modern naturalist, Thomas Moffett, describes as "lesser living creatures," those species inhabiting the lower rungs of the Great Chain of Being. As a neurobiological concept, minimal cognition initially described the ways in which *neuralia*—a clade of animals at the margins of nervous systems—interact with their environments, sense their surroundings, and behave accordingly.[2] Minimal cognition is, at its core, an ecological theory insofar as it attempts to account for the sensory relationships that a "simple" animal makes within a larger ecosystem. Paco Calvo Garzón and Fred Keijzer, however, lament that the wider field has not yet taken up minimal cognition to study plant life, "Up to now, plants have not received much attention within embodied cognition. Most of those working in the field have employed a default assumption that intelligence is at a minimum an animal thing that was best caught in studies with free-moving agents … while excluding sessile plants" (162). They recommend extending minimal cognition to plants because plants meet the elementary requirements of cognition; that is, metabolic organization based on "[m]anipulating the extra-organismal environment" as a "biological strategy" for survival.[3] This inclusive model of embodied cognition allows for the expansion (or perhaps even reconfiguration)

of what Aristotle describes as the *sensus communis*, the "common sense," where sensation is shared across species and where the commons (from the Greek *koinos*) becomes a more thoughtful commonplace, a cognitive ecology shaped by humans and nonhumans alike.[4]

Darwin's root-brain hypothesis postulates similitude between animals and plants, a relationship anticipated by early moderns who, following Aristotle, may have thought of plants as rooted animals. Even John Milton, in his description of the earth's creation in *Paradise Lost*, imagines animals as botanical: a stag with his "branching head," the behemoth and sheep "[a]s plants" rising "out of the ground" (7. 456, 470-73). In this chapter, I adopt a rhizomatic approach to account for the cross-species similitudes of Milton's rich cognitive ecology. I do so by focusing on the poem's plants and then following the digressions of their roots, the offshoots of their stems, all the while puzzling over the strange bifurcations of their bodies. More specifically, as I change course from cognitive science to queer theory and then again to the history of medicine, I argue for the centrality of plants in Milton's monist scheme of desire. By turning to the medicinal theories of Paracelsus, I claim that early modern humans and plants shared a historically particular form of intimacy predicated on anatomical resemblance, which Milton eroticizes and radicalizes as ontologically identical yet hierarchized materiality. As plants incite desire with their woody bodies, silken blooms, and sweet fruit flesh so too do they become desirous, their seeds quietly yearning for their own plots. Cross-species similitude in *Paradise Lost* enables a new *sensus communis* where cognition is more subtle, perhaps less legible to the mammalian cortex, and where nonhuman vagaries of desire foster alternate conceptions of ecologic communality. All begin at the root.

In *Milton and Ecology*, Ken Hiltner argues for the centrality of concepts of rootedness and uprootedness in the poem's Edenic ecology. Milton's description of the Bower, he argues, literalizes the etymology of "ecology" as the poet gives us, in effect, an "'account' (*logos*) of the 'house' (*oikos*)" (26):

> … the roof
> Of thickest covert was inwoven shade
> Laurel and myrtle, and what higher grew
> Of firm and fragrant leaf; on either side
> Acanthus, and each odorous bushy shrub
> Fenced up the verdant wall; each beauteous flower,
> Iris all hues, roses, and jessamine,
> Reared high their flourished heads between, and wrought
> Mosaic; underfoot the violet,
> Crocus, and hyacinth rich inlay
> Broidered the ground, more coloured than with stone
> Of costliest emblem. (4.692-703)

The Bower is a rooted house; its thatched roof, leafy walls, and floral carpet sustain an organic architectonics from the ground up. Plant matter proves firmer and certainly "more coloured" than the earth's duller and harder materials. "The house is at root a planted plant," Hiltner tells us as he invokes Oswald Spengler's take on the humble abode, "The peasant's dwelling is the great symbol of settledness. It is itself plant, [which] thrusts its roots deep into its 'own' soil." Indeed those who dwell within the

"planted plant" become plant-like themselves, developing roots of their own. Spengler elaborates upon the laboring figure of the planter:

> To plant implies, not to take something, but to produce something. *But with this man himself becomes plant*—namely, as peasant. He roots in the earth that he tends, the soul of man discovers a soul in the countryside, with the new earth-boundness of being, a new feeling pronounces itself. Hostile nature becomes the friend; earth becomes *Mother* Earth. Between sowing and begetting, harvest and death, the child and grain, a profound affinity is set up. A new devoutness addresses itself in chthonian cults to the fruitful earth that grows up along with man. (qtd. in Hiltner, 33)

As humans cultivate a primitive relationship with the earth through agricultural labor, they become "earth-bound," a defining characteristic of plants, according to Aristotle, who identified them through negation—their lack of locomotion. Their "spatial rootedness in the soil," Michael Marder, one of the founding figures in plant studies, writes in *Plant Thinking*, renders them the ultimate "figure[s] of unfreedom" (12). Spengler likely intends for this concept of rootedness to function symbolically, but as Hiltner observes, "Spengler does not expound further." What then are we to make of the rooted human? Of the man-becoming-plant which, in *Paradise Lost*, is not a question but a promise? And might "becoming" also function as a mode of cognition within an ecology where humans and plants co-shape one another's dwelling?

Not unlike plant neurobiologists following in the footsteps of Darwin, Marder pursues a theory of plant thinking that is non-ideational, non-imagistic, and divorced from the logics of the animalian brain and central nervous system, what, he suggests, is

an effect of evolutionary engineering that "[offered] a novel solution to the old problem of life, which had been already raised, differently, in the very ontology of plants" (156-7). That is to say that plants followed an alternate and ancient evolutionary path, divergent from cerebrated organisms, by acquiring distinct bodily technologies to manage the requirements of life. Marder argues that plants possess "non-conscious intentionality" inherent to their very being, embedded in the materiality of their chlorophyllous anatomies, and made manifest by their tropistic behaviors: "[T]he non-conscious life of plants is a kind of 'thinking before thinking,' an inventiveness independent from instinctual adaptation and from formal intelligence alike" (154). Whereas the cognitive sciences, especially those invested in theories of embodied and minimal cognition, would support such a claim (Marder acknowledges that "biology abounds in examples of 'informational retrieval' by plants"), I suggest that Milton's epic provides poetic instances of plant thinking, not only in plants that appear cognitive—which they are—but also the ways in which plants refuse subjective and identitarian forms of knowing (155). *Paradise Lost*, although conversant with science, extends a critique of identity on its own literary terms by depicting thinking plants alongside humans—the very first on earth, Adam and Eve—who also think about plants.

The root-brain in *Paradise Lost* grounds the figure of a flowering plant that materializes Milton's philosophical monism:

> So from the root
> Springs lighter the green stalk, from thence the leaves
> More airy, last the bright consummate flower
> Spirits odorous breathes: flowers and their fruit

> Man's nourishment, by gradual scale sublimed
> To vital spirits aspire, to animal,
> To intellectual, give both life and sense,
> Fancy and understanding. (5.479-85)

As Milton re-inscribes the primacy of the Great Chain of Being along the plant's vertical ascent from root to stalk to flower, so too does he incorporate plant life into the "one first matter all," the primordial element that composes the monist cosmos (5.472). What's more is that the plant seems to display "non-conscious intentionality," to borrow Marder's term, in its noble aspiration to vital spirituality. Plant matter, "flowers and their fruit," serve "[m]an's nourishment" and, in doing so, enable not only life but also life's complex intellectual processes: "sense, / Fancy and understanding." In this way, the root materially functions as the root-brain of Milton's cognitive ecology; that is to say, both human and animal cognition begin with the plant's desire for sublimity. Hiltner reminds us that mind and ecology are inseparable in *Paradise Lost* and that "Milton's much-noted rejection" of Descartes' mind-body split is also a rejection of "mind-place" dualism (4).

I would be remiss to claim a rhizomatic approach to reading *Paradise Lost* without mentioning the work of Gilles Deleuze and Felix Guattari. At the risk of rehearsing what is now relatively well-known terminology, I turn to *A Thousand Plateaus* to more fully account for the botanical interactions of Milton's garden. My approach is twofold. First, I recapitulate the theoretical tenets of the rhizome so as to question the role of plants within the larger conceptual scheme of becoming. Second, by connecting the rhizome to cognition, I show how Deleuze and Guattari literalize the concept of a root brain, the stakes of which are played out in figurations of plant life in *Paradise Lost*.

Refusing models of analogy and mimesis, Deleuze and Guattari challenge the binaristic logics of the Western philosophical tradition with renegade productions of rhizomatics and becomings. The rhizome is an underground network of roots wildly proliferating in diverse and chaotic directions. Lacking both a pure origin and a central axis of existence, the rhizome is not a singular entity but rather comprises "lines of segmentarity," moving through lateralizations and expansions in "non-hierarchical, non-signifying" relationality (21). Seeking to undo the self-identical subject, the monomaniacal One habitually exteriorized from its Other, they propose a theory of multiplicities in which particles, bodies, and intensities imminently flow as they become an assemblage. Deleuze and Guattari assert, "A multiplicity has neither subject nor object, only determinations, magnitudes and dimensions that cannot increase in number without the multiplicity changing in nature … An assemblage is precisely this increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connection" (8). They advocate for the figure of the rhizome, as opposed to the classical root or radicle, for its ability to achieve multiplicity. Drawing on the biological concept of mutualism in which the cooperative interactions of two or more species form an ecologic multiplicity, they offer the image of an orchid and wasp:

> The orchid deterritorializes by forming an image, a tracing of a wasp, but the wasp reterritorializes on that image. The wasp is nevertheless deterritorialized, becoming a piece of the orchid's reproductive apparatus. But it reterritorializes the orchid by transporting its pollen. Wasp and orchid, as heterogeneous elements, form a rhizome … The orchid does not reproduce the tracing of the wasp; it forms a map with the wasp, in a

rhizome. (10, 12)

Through the process of pollenization, the orchid and wasp enter into the non-hegemonic, trans-species relationality characteristic of the rhizome. Bodies are not discrete entities as they connect and transform together. The orchid becomes-wasp as the wasp-becomes orchid.

Although Deleuze and Guattari seek to abolish the distinction between subject and object, the figure of the plant in *A Thousand Plateaus* takes on the problematic status of the Other. En route to becoming-intense, one becomes-woman—the first becoming, as they say—followed by becoming-animal, becoming-molecular, and finally becoming-imperceptible.[5] That which is "imperceptible," however, in their infamous series of becomings is the becoming-plant. Why is the becoming-plant effaced? And what are the reasons for its exclusion? More than anything, the plant appears to aptly perform the becomings that Deleuze and Guattari hope for: emitting plant particles (i.e. seeds, pollen) as it deterritorializes itself and reterritorializes other ecological assemblages. It seems peculiar then, given the plant's omission from the great chain of becoming, that the authors would instruct us to "[f]ollow the plants" (11).

Plants pose an interesting theoretical problem in *A Thousand Plateaus*. Deleuze and Guattari seem unsure if they fit into their larger conceptual scheme: "the question is whether plant life in its specificity is not entirely rhizomatic" (6). Their ambivalence toward the becoming-plant stems from their opposition to the rooted tree, the paradigmatic symbol of Western philosophy, representing all with which they disagree: hierarchy, filiation, identity, polarity, and binarism. A rhizome, on the other hand, "is very different from the tree or root" because "itself assumes very diverse forms, from

ramified surface extension in all directions" (7). The tree, while qualitatively not a rhizome, is nonetheless a plant, and if becoming-plant means risking arborescence, then the entire process of becoming-intense is in danger of obstruction:

> Once a rhizome has been obstructed, arborified, it's all over, no desire stirs; for it is always by rhizome that desire moves and produces. Whenever desire climbs a tree, internal repercussions trip it up and it falls to its death; the rhizome, on the other hand, acts on desire by external, productive outgrowths. (14)

The plant, for Deleuze and Guattari, is the locus of uncertainty, unknowability, and risk; it is the site upon which desire is made both possible and impossible.[6] The plant exists as the shifting borderline between the rhizome and the tree, encompassing yet also separating them, producing difference within the same.

Trees, the authors confess, are not entirely obstructionist, "There exist tree or root structures in rhizomes; conversely a tree branch or root division may begin to burgeon into a rhizome … A new rhizome may form in the heart of a tree, the hollow of a root, the crook of a branch" (15). Occasionally, a tree may imbed itself within the tuberosities and bulbs of rhizomes, while rhizomes may also form in the hidden recesses of a tree, instigating microscopic as well as macroscopic assemblages with the tree's ecology. This is "[t]he wisdom of plants," admit Deleuze and Guattari, for "even when they have roots, there is always an outside where they form a rhizome with something else—with the wind, an animal, human beings" (11). Almost as if to say, in spite of their rootedness, plants know better. What Marder calls "[r]hizomatic thought—or plant thinking *proper*—[that] takes place in the interconnections between the nodes, in the 'lines of flight' across

which differences are communicated and shared," Deleuze and Guattari simply call "thought" in *A Thousand Plateaus* (169). "Thought is not arborescent," they write, "and the brain is not a rooted or ramified matter" (15). Instead, the brain maps the rhizome, and its neurons perform its chaos, "The discontinuity between cells, the role of the axons, the functioning of the synapses, the existence of synaptic microfissures, the leap each message makes across these fissures, make the brain a multiplicity immersed in its plane of consistency or neuroglia." From the neurobiologist Steven Rose's *The Conscious Brain*, Deleuze and Guattari borrow the image of an "axon and dendrite twisting around each other like bindweed around brambles, with synapses at each of the thorns" in an effort to further explain the rhizomatic brain. The brain, they suggest, is more plantlike than it at first may seem, for even though "[m]any people have a tree growing in their heads, … the brain is more a grass than a tree." Thought runs wild and spreads laterally through the ground with dendrites propagating electrochemical signals across the synaptic gaps that perforate the nervous system.[7]

The jarring images of a cranial tree and grassy brain find their antecedent in Milton's botanic description of Adam and Eve sprouting plants from their scalps. The first couple exist not solely in exterior relation to the plants of the garden but as part-plant themselves:

> [H]yacinthe locks
> Round from his parted forelock manly hung
> Clustering, but not beneath his shoulders broad:
> She as a veil down to the slender waist
> Her unadornèd golden tresses wore

Dishevelled, but in wanton ringlets waved

As the vine curls her tendrils. (4.301-7)

"[S]houlders broad" marks Adam's sexual difference from Eve's "slender waist," as do his neatly coifed and "manly hung" clusters from her plain and "wanton ringlets." Although "[n]ot equal, as their sex not equal seemed," man and woman are created in the image and likeness of plants, made of the same divine matter that proceeds from God and eventually returns to him (4.294). Becoming-plant in *Paradise Lost* is an effect of what Diane McColley refers to as Milton's Christian hylozoism. *Hylo,* from the Greek *hyle or hyla*, means both "matter" and the "wood" from trees (110, 114). A vitalist interpretation of the world, hylozoism, as defined by the *Oxford English Dictionary*, refers to a "theory that matter is endowed with life, or that life is merely a property of matter." The word itself etymologically embeds "wood" within "matter," a semiologic as well as material convergence of plant matter that also makes *plants matter*. McColley directs us to the active verbs animating Milton's plants, giving them "an energetic part in their birth from Earth's Body" (119). Narrating God's creation of vegetal life, Milton writes:

Forth flourished thick the clustering vine, forth crept

The swelling gourd, up stood the corny reed

Embattled in her field: and the humble shrub,

And bush with frizzled hair implicit: last

Rose as in dance the stately trees, and spread

Their branches hung with copious fruit. (7.320-5)

Like the root that raises the stem that unfurls the "more airy" leaves whence unfolds the blossom, so too does botanic creation ascend step by step from the soil; "tender grass"

gives way to "herbs of every leaf," followed by larger and taller plants nearing ever closer to the sun (7. 315, 317).[8] Plants are not passive objects wrought by a divine hand. They assert themselves materially and sensorially, increasing in girth and height, then overtaking the human sensorium. Milton's vivid language seizes the visual and aural faculties, as McColley evocatively recounts, "In 'forth flourished thick the clustr'ing vine' we hear the motion of the leaves, and in 'forth crept / The swelling gourd, up stood the corny reed' the enjambment at 'crept' gives impetus to the vine's motion and the spondee of 'up stood' gives stability. If one is reading aloud, the sounds are tactile as well" (119). Moreover, the editorial question surrounding Richard Bentley's emendation of "smelling gourd" to "swelling gourd" raises the possibility of an olfactory process: a stinking fruit detected by a nose.[9] Each of these plants demonstrates an uncanny ability to insinuate itself into the human nervous system. The molecular entanglements that occur at the level of the cell during sensation—specialized receptors, helically coiled through the cellular membrane, embrace volatile molecules released by the plant—are reiterated in the sinuous entanglements of the plants themselves. While the "clustering vine" implies vegetal tangles, similar to Eve's viny and tousled locks, the "bush with frizzled hair implicit" presents an ontologically hybrid entanglement. The *OED* cites this moment in *Paradise Lost* to define "implicit" as "entangled, entwined, folded or twisted." It is also worth mentioning that the *OED* discovers its original use in Edward Topsell's 1608 *Historie of Serpents* to describe the curved morphology of snakes, "Infolded or implicite, horrible." The hirsute bush—that is, the plant that develops hair—reverses the image of Adam and Eve sprouting blossoms, tendrils, and vines from their own heads. More importantly, it entwines human with plant matter, while also evoking both the moral and

morphological twistedness of Satan's incarnation as a serpent. Indeed, it is through the serpent that the most dangerous plant in the garden, the fruit from the tree of knowledge, avails itself to Eve through language.

Part Two: Desiring Plants

In Book 9, Eve makes herself vulnerable to Satan's wiles in her dogged insistence to tend to the garden in solitude, a daily task she had previously undertaken in the protective custody of Adam. Together they had tended to the garden's excessive and unruly plants, "over-woody" and overreaching, requiring "hands to check" the "fruitless embraces" of their non-procreative conjugations. Seeking to rectify these childless relationships, the first man and woman officiated botanical marriages—"they led the vine / To wed the elm"—a georgic trope borrowed from both classical and contemporary sources.[10] On this day, however, Eve goes at it alone, so "from her husband's hand her hand / Soft she withdrew" (9.385-6). Satan, in his serpentine form, then discovers her alone in a grove of flowers:

> Veiled in a cloud of fragrance, where she stood,
> Half spied, so thick the roses bushing round
> About her glowed, oft stopping to support
> Each flower of slender stalk, whose head though gay
> Carnation, purple, azure, or specked with gold,
> Hung drooping unsustained, them she upstays
> Gently with myrtle band, mindless the while. (9.425-31)

As Eve ties up sagging stalks weighed down by heavy blossoms with twine woven of

myrtle, Milton provocatively characterizes her as "mindless." The term registers the prosaic nature of her horticultural labor, nearly automatic gestures conveyed through neural pathways so deeply inscribed that they require minimal effort to accomplish. Mindlessness in the garden is habitual. However, "mindless" may also refer to a more literal state of having no mind, thoughtlessness, or lack of awareness, especially of a fallen angel in disguise. That is not to say that Eve is brainless or that she lacks a neural body innervating her paradisiacal ecology. Her private moment incorporates cognitive, human-botanical multiplicity, a sensory overload in which an aromatic cloud and thick clusters of luminous roses engulf her body, at least partially, so that Satan only halfway spies her. Within this assemblage, she performs the heliotropic function of the plant's own sensorimotor system, lifting the blooms to the sky just as a stalk twists toward the sun. Eve thinks like a plant. In the *Metaphysics*, Aristotle raises the question, "If one has no belief of anything, but is equally [*homoios*] thinking and not thinking, how would one differ from a plant?" (qtd. in Marder, 164). Implicit to Aristotle's question is the assumption that plants are as thoughtless as they are faithless. Marder answers back:

> A human being equal (*homoios*) to a plant is one who is equally (*homoios*) thinking and not thinking … The human who thinks like a plant literally becomes a plant, since the destruction of classical *logos* annihilates the thing that distinguishes us from other living beings … To be fair, a vegetable-like person is not one who no longer thinks but … one who thinks without following the prescriptions of formal logic and therefore, in some sense, without thinking." (164-5)

"Mindless" Eve becomes-plant in the rhizomatic sense, much like the orchid and wasp, as

she joins the earth's photosynthetic mechanism. Mindlessness is not non-cognitive. It is the momentary forgetting of the self-constituted subject and the openness to the nonhuman dynamisms of the text's cognitive ecology.

Satan then attempts to capture Eve's attention with serpentine gymnastics and with his audible, "sidelong" approach through the leaves of the ground cover. Again, Eve mind[s] not," preferring instead to continue with her work:

> So varied he, and of his tortuous train
> Curled many a wanton wreath in sight of Eve,
> To lure her eyes; she busied heard the sound
> Of rustling leaves, but minded not. (9.516-9)

A tropology of entanglement persists from the poem's earlier books as Satan's "wanton" coils echo Eve's "wanton ringlets," which are also ontological inversions of the shrub's "frizzled hair implicit." "Used / to such disport before her through the field, / From every beast," Eve ignores the serpent's cues, assuming nothing out of the ordinary (9.519-21). That is until the animal speaks. Bewildered by the reptile's surprising vocal prowess, she questions:

> What may this mean? Language of man pronounced
> By tongue of brute, and human sense expressed?
> The first at least of these I thought denied
> To beasts, whom God on their creation-day
> Created mute to all articulate sound. (9.553-7)

Animals, like plants, were brought forth by God without voice and without a rational soul, the primary seat of human intellect. Satan replies that he too was once like "other

beasts that graze / The trodden herb," as well as only minimally intelligent, "of abject thoughts and low" (9.571-2). As he relates climbing the tree, coiling upward around the trunk toward the heavy fruit, he instigates a hierarchy of consumption: "All other beasts that saw, with like desire / Longing and envying stood, but could not reach" (9.592-3). Those unable to access the fruit were resigned to their dumb envy. His intellectual ascent, he promises Eve, was attained by "tasting those fair apples" from the tree of knowledge:

> Ere long I might perceive
> Strange alteration in me, to degree
> Of reason and inward powers, and speech
> Wanted not long, though to this shape retained. (9.598-601)

With intellect incongruent to his morphology, the serpent persuasively verbalizes the fruit's virtues. Most critics recognize Satan as the primary tempter—Milton describes him as "[t]he tempter all impassioned"—but the plant itself plays an equal part in Eve's seduction and, in doing so, enters into the poem's circuits of *eros* (9.678). Milton's fruit is desirable, but it is also desirous, exercising the non-subjective desire of plants to enter into relation with other species, including but not limited to humans.

Steven Swarbrick makes a similar claim in "Unworking Milton: Steps to a georgics of the Mind" by invoking John Gerard's *The Herball or Generall Historie of Plants*, specifically Gerard's supposition that "none haue prouoked mens studies more, or satisfied their desire so much, as plants have done," in an effort to justify a concept of vegetal agency:

> Gerard's text illustrates that plants not only have the capacity to move, but they move us as well. Plants seduce: from the Latin *seducere*, meaning to

> lead, to persuade. Though we are used to thinking of plants as passive beings lacking in movement and sense, arguably the two attributes most often chosen—reason notwithstanding—to set plant life apart from the existential affairs of humans, for Gerard, not only do plants move, their movements are an invitation to refocus our attention on the ways that humans can end up acting as prosthetics for other things in the world, in this case, plants. This, we might say, is what constitutes the uncanny sentience of plants: their ability to invite, to teach and no doubt to seduce. (2, 22)

Whereas Swarbrick then summons Freud to account for the plant's uncanniness, my aim is to show how neuroscience and evolutionary biology grapple with the same question: how do plants interact cognitively with and within their ecologies of desire?

In *The Botany of Desire*, Michael Pollan argues that it is the plant's genetic imperative to cleverly manipulate not only humans but also other non-plant species to propagate its genetic code. The gardener, who seeds, tends, and harvests her yield, is no different from the wasp, seduced by the orchid into transferring its pollen. Pollan comes to this realization not in Milton's garden but in his own, while pondering the "knobby charms" of potatoes, "All these plants, which I'd always regarded as the objects of my desire, were also, I realized, subjects acting on me, getting me to do things for them they couldn't do for themselves" (xv). He undoes—or to borrow Swarbrick's term, "unworks"—the conventional binaries of human exceptionalism (which is too often construed as *the* defining characteristic of the European Renaissance). "We automatically think of domestication as something we do to other species," Pollan writes, "but it makes

just as much sense to think of it as something certain plants and animals have done to us, a clever evolutionary strategy for advancing their own interests" (xvi). It could be argued then that Adam and Eve's labor in the garden, as a form of domestication, is compelled not only by God—"fill the earth, subdue it, and throughout dominion hold," he commands—but also by the plants, the unconscious yet nonetheless intentional work of plants to remake the human (7.531-2). These reciprocal relationships forever transformed natural history through the protracted process of coevolution.

Pollan's first chapter takes a "pomocentric" approach, if you will, to account for the sociobiological history of apples. Importantly, the fateful fruit from the tree of knowledge is generally assumed to be an apple. Milton occasionally refers to it as such not only in *Paradise Lost* but also decades earlier in the *Areopagitica*, where he writes, "It was from out the rind of one apple tasted that the knowledge of good and evil, as two twins cleaving together, leaped forth into the world. And perhaps this is the doom which Adam fell into of knowing good and evil; that is to say, of knowing good by evil" (247). The bible, however, never identifies the fruit as an apple. Pollan too doubts the apple's biblical provenance because "that part of the world is generally too hot for apples" (20). This "mistake," he argues, serves as evidence of "the apple's gift for insinuating itself into every sort of human environment, even, apparently, a biblical one." This "gift" is part and parcel of the apple's appeal to the senses, the ways in which it materializes desire in its sweet flesh, turning intentionality outward with its ruddy sheen and diffusing its crisp scent into the air. Like a ventriloquist, the fruit of good and evil speaks its sweetness through the figure of the serpent:

I chanced

A goodly tree far distant to behold
Loaden with fruit of fairest colours mixed,
Ruddy and gold: I nearer drew to gaze;
When from the boughs a savoury odour blown,
Grateful to appetite, more pleased my sense. (9, 575-80)

Satan narrates his own entrapment by the plant's sensuous wiles, drawn first through the eyes by its Petrarchan coloration—"nearer drew" he to more closely look—and then through the snake's vomeronasal system by the hanging fruit's aroma, which naturally piques his appetite: "hunger and thirst at once, / Powerful persuaders, quickened at the scent / Of that alluring fruit" (9.586-9).[11] As the fruit intensifies its seduction of Satan's senses, he likens its scent to that of another plant, "smell of sweetest fennel" (*Foeniculum vulgare*), a yellow-flowered species of parsley, after which he compares it to the ambrosial yield of a lactating ruminant, "the teats / Of ewe or goat dropping with milk" (9.581-2).[12] Pollan assumes that "our first experience of sweetness comes with our mother's milk," but Milton circumvents this infantile experience at the breast by having Eve arrive into the world not at her mother's breast but at Adam's (19). "Sweetness," Pollan continues, "has proved to be a force in evolution … [I]n exchange for [the fruit's] fructose," nature's crystalline form of energy, "the animals provide the seeds with transportation, allowing the plant to extend its range. As parties to this grand coevolutionary bargain, animals with the strongest predilection for sweetness and plants offering the biggest, sweetest fruits prospered together." The apple is built to arouse the appetites of its seed bearers, and Eve becomes the greatest of them all.

After following Satan "swiftly rolled / In tangles" to the "wisdom-giving plant,"

Eve at last confronts the forbidden fruit, its full botanic powers on display (9.632, 679). In Genesis, the fruit merely appeals to Eve's vision—it is described as "pleasant to the eyes" (Genesis 3:6)—but in Milton's revision, it enjoins each of her five senses:

> Fixed on the fruit she gazed, which to behold
> Might tempt alone, and in her ears the sound
> Yet rung of [Satan's] persuasive words …
> And waked
> An eager appetite, raised by the smell
> So savoury of the fruit, which with desire,
> Inclinable now grown to touch or taste
> Solicited her longing eye. (9.735-7; 739-43)

The double spondee—"she plucked, she ate"—emphatically consummates the seduction. The *ménage a trois* of plant, animal, and human (fruit, serpent, and Eve), that simultaneously ratifies yet confounds Aristotle's tripartite ontology, portends an ecology of desire co-shaped by the conscious and unconscious appetites of both cognitive and minimally cognitive organisms (9.781). What Eve hopes is medicine, "Here grows the cure of all, this fruit divine," proves to be poison (9.776). Swarbrick insists that "Milton's way of looking at plants is … pharmacological in Derrida's sense of *pharmakon*: it infects the viewer by crossing the traditional boundary between objective contemplation and affective response" (22). Within the core of the apple is neither a pathogen nor a parasite but is instead what Pollan identifies as a pentagram—an unholy geometry in modern occultism—of "five small chambers arrayed in a perfectly symmetrical starburst. Each of the chambers holds a seed … contain[ing] a small quantity of cyanide, probably a

defense the apple evolved to discourage animals from biting into them" (10). The forbidden apple's promise of heightened cognitive faculties, of giving voice to the mute, reason to the animal, is embittered by the sinfulness of its seed.

Part Three: Inhuman Homoerotics

The remainder of this chapter will employ queer theory not only to consider cross-species desire in Milton's ecology but also to suggest that desire in *Paradise Lost* is structured on a principle of anatomic sameness evocative of homosexuality. At the end, I will return to the postlapsarian figure of the pharmacological plant through Paracelsian medicine to propose a relational model predicated on anatomical resemblance between humans and plants. Arguing for homosexuality in Milton, much less in the early modern period, is understandably fraught. Most debates on Milton's homosexuality focus on his friendship with Charles Diodati, who Milton met as a schoolboy while attending St. Paul's and for whom he composed the elegy *Epitaphium Damonis*. John Shawcross argues for Milton's "latent homosexualism," in concert with Bruce Boehrer, who locates homoeroticism in "Lycidas," arguing that Milton mobilizes marriage tropes into the male-male social arrangements of pastoral elegy. What's more is that some critics still shake their heads and point to the much-cited moment in *The History of Sexuality*, where Michel Foucault tells us that the figure of the homosexual only became a distinct "species" or "personage" simultaneous with nineteenth-century medical and psychological discourses on sex, to prove that homosexuality did not exist in early modern England (43).

Attempting to undo what has been taken as Foucault's historiographical

dogmatism, Eve Kosofsky Sedgwick interrogates the epistemic shift between "before homosexuality" and "after homosexuality," arguing instead for the "coexistence of different models" of sexuality that complicate the notion of a single narrative and an easy break. Following suit, in "Queering History," Jonathan Goldberg and Madhavi Menon wonder what it might mean to do a "homohistory"; that is, to conceive of history not in terms of difference but of similarity and to question why "we apprehend the past" as synonymous with alterity (1609). A homohistory does not necessarily require historicizing homosexuality as an identitarian category but rather demands attending to the undefinability of homosexuality and subsequently "expanding the possibilities of the nonhetero, with all its connotations of sameness, similarity." Even for Foucault, the homosexual as a modern construct was undefinable and never fully knowable: "a life form, and a morphology, with an indiscreet anatomy and possibly a mysterious physiology" (43). Modern discourses of power produced a queer body whose parts and contours were inscrutable. What exactly constituted a homosexual body? What did it look like? Was it even human? What marked the figure of the homosexual as such was at once particular as it was obscure, corporealizing deviance within its strange anatomy, incarnating its very flesh, yet always turning toward *the same*.

Moreover, the question of anatomy—that is, bodies and the arrangements of their parts—is of crucial importance to the ontology and epistemology of the homosexual. A sexed body geared by its propensity toward bodies with homologous parts not only *makes* the homosexual but makes the homosexual *knowable* in the first place. The "homo" of "homosexuality," meaning "same" in Greek, precisely denotes this desire for sameness: alike bodies possessing congruent morphological features, enfolded together in the skin-

to-skin embrace of eros. That is to say, on a very basic level, the concept of homosexuality relies on sexed bodies with particular bodily configurations, however discursively and materially produced, desiring other bodies with identical configurations. Approaching homosexuality in terms of form and materiality, as opposed to identity and politics, further allows us to consider possible eroticisms among diverse species—human, animal, plant, mineral—sharing morphological equivalencies. Foucault's analysis of homosexuality is primarily anthropocentric. Perhaps rightly so, but I echo Karen Barad's critique that "Foucault's genealogical analysis focuses on the production of human bodies, to the exclusion of nonhuman bodies whose constitution he takes for granted" (169). If homosexuality is, at least partially, a phenomenon of shared morphology, then is it unthinkable that desire might be imbedded in materiality? In the corresponding flesh of humans and nonhumans alike?

In *The Seeds of Things*, Goldberg turns Milton's materialism toward Lucretian atomism in an effort to "track signs of male desirability and of male-male desire in Milton … by locating it in the angels of *Paradise Lost*, who, in their ability to eat and make love, are embodiments of Milton's monism" (181). Goldberg makes two interventions consequential to a queer ecocritical reading of *Paradise Lost*: the first in identifying possibilities for cross-species homoeroticism, especially in Adam's friendship with the archangel Raphael, and the second in structuring Milton's materialism not only on a philosophy of ontological sameness but also in terms of *homo-ness* to show that "sexual desire is not incompatible with philosophical monism." Toward the first, he directs us to homoerotically charged moments of eating shared between Adam and Raphael in which erotic similes turn edible and thereafter digestible. Adam says to the

angel:

> For while I sit with thee, I seem in heaven,
>
> And sweeter thy discourse is to my ear
>
> Than fruits of palm-tree …
>
> They satiate, and soon fill,
>
> Though pleasant, but thy words with grace divine
>
> Imbued, bring to their sweetness no satiety. (8. 210-2, 14-6)

Saccharine tropes temporarily satisfy but ultimately fail to quench Adam's appetite for angelic conversation, a mutual circulation of discourse and desire within "an organic cosmos living by means of a metabolic process that is not merely analogized when described as eating" (190). Goldberg reminds us that, for Milton, "knowledge is as food," to which I would add that food is also plant, which holds true for the eventual fall. In Adam and Raphael's exchange, Goldberg observes the necessarily unequal interactions across boundaries, "[They] may both be male, but one is angel and the other is not: the specter of cross-species desire is thus present as a division within male gender as firm as that which separates male and female" (192). The firmness of that division is what's at stake. How wide is the divide between gender, between species, between human and angel, "if earth / be the shadow of heaven, and things therein / Each to other like" (5.574-6)? In other words, how different is similarity? Figures of the nonhuman in Milton's epic, in both their similitude and difference to humans, trouble the very category of humanity in *Paradise Lost*. The reverse too seems true. That is Adam and Eve, in their likeness to nonhumans, make the poem's cross-species relationships seem not so, for lack of a better word, crossed.

Toward the second intervention—specifically, the concept of homo-ness—Goldberg locates in Milton's monism what he refers to as "homo-materialism," which characterizes a literary universe where a single material substance animates all earthly and heavenly bodies, from rocks to trees to angels (187). Moreover, Goldberg has something else or, better yet, *something more* in mind with his gloss on "homo-materialism," "I mean to allude to the argument that [Leo] Bersani has been making lately about a homo-ness that extends beyond sexual matters to a broader sense of worldly connectedness based in sameness" (242). Bersani, one of the major thinkers with whom Goldberg converses in *The Seeds of Things*, has turned over a new leaf, if you will, switching from the psychoanalytically inflected self-shattering of sex in his earlier work (i.e. *Is the Rectum a Grave?*) to a more current interest in what he describes as correspondences of forms within a universal solidarity of being" (164). In "Sociality & Sexuality," Bersani claims that "[a]ll love is, in a sense, homoerotic" (17). An impossible, if not at least baffling statement on its surface, Bersani insists that "[e]ven in the love between a man and a woman, each partner rejoices in finding himself, or herself, in the other," a concept he later develops as "impersonal narcissism" in conversation with Adam Phillips in *Intimacies* (656). Bersani takes seriously Foucault's call for "new relational modes" by rediscovering a specific sort of specular love in *The Symposium* and *Phaedra* where a "lover narcissistically loves the image of his own universal individuation that he implants in the boy he loves, but he is implanting more of what his beloved is, more of the type of being they already share" (72, 82). Impersonal narcissism requires, in effect, that the subject love an idealized yet distorted version of the self possessed by the other—a phenomenon of both sameness and difference "in which the

very opposition … becomes irrelevant as a structuring category of being" (86).

Swarbrick, following a similar critical genealogy, helps us understand that the "other" in this "relational field" is not necessarily human nor is it, as I argue, necessarily cerebrated, especially in Milton's Ovidian rewriting of the Narcissus myth. Eve remembers her sexual awakening that is as much her very entrance into the world:

> I thither went
> With unexperienced thought, and laid me down
> On the green bank, to look into the clear
> Smooth lake, that to me seemed another sky.
> As I bent down to look, just opposite,
> A shape within the water gleam appeared
> Bending to look on me, I started back,
> It started back, but pleased I soon returned,
> Pleased it returned as soon with answering looks
> Of sympathy and love. (4.457-65)

What Eve sees in the water is the effect of ecological assemblage, an ongoing relay of liquid and air, body and shape, a startled withdrawal and then curious return to the water's edge through the beautiful and specular interactions of the environment. Eve's "I" doubly becomes "it," and "it" (and notably not Eve) *answers* with "sympathy and love." I read this scene of narcissistic seduction as not so different from Eve's seduction by the fruit: yet another rhizomatic actualization of desire that crosses ontological boundaries by concentrating affective density in figures of non-humanity. What Swarbrick describes as "a material composite of sound and light, a sonorous, 'watery

image'" visualizes and reverberates the inhuman against the human, where similitude might be undone by a wayward ripple or errant shaft of sun(16). What is at first strange or foreign to Eve in the water eventually becomes familiar, a sympathetic figure that reliably returns and, in doing so, amplifies expressions of love.

This moment in particular has experienced many returns in queer criticism on *Paradise Lost*. For example, in "Adam and Eve and the Failure of Heterosexuality," Will Stockton argues that straight sex is doomed to fail because neither man nor woman are capable of achieving gratification with the other. Postlapsarian Adam fantasizes about a "masculine" world "without feminine," namely without Eve—" O why did God … create at last / This novelty on earth, this fair defect / Of nature? … Or find some other way to generate / Mankind?" (10.888; 90-2, 94-5)—begging instead for a fellow, who Stockton wittily names "Steve." Eve, on the other hand, performs her own stubbornness to heterosexuality by originally preferring her own reflection to Adam, whom she finds "less fair …[t]han that smooth wat'ry image" (4.478, 80). James Holstun reads her reluctance to Adam as evidence of her natural lesbianism. Nostalgic for how she once "pined with vain desire" for her own "shape," Eve laments God's correction of her narcissistic error by redirecting her sexuality to its properly gendered object (4.466). This alternate route, however, is a mere heteroticized version of her lakeside narcissism. Adam is her original and she his image. "He / Whose image thou art, him thou shalt enjoy," God commands (4.471-2). Her reflection is a visual as well as ecologic iteration of a sameness that joins her to him and, subsequently, them to the universe. Reproduction too is a multiplication of similitude: "To him shalt bear / Multitudes like thy self" (4.473-4). The primacy of heterosexuality in Milton's epic is diminished by an originary desire for

similitude that proliferates ad infinitum.

Difference in *Paradise Lost* is also an effect of materiality as it occurs in degree and forms "of substance" rather than in the rhetoric of identity:

> One almighty is, from whom
> All things proceed, and up to him return,
> If not depraved from good, created all
> Such to perfection, one first matter all
> Indued with various forms, various degrees
> Of substance, and in things that live, of life. (5.469-74)

Even gender difference is, in part, a phenomenon of material sameness as Eve herself is culled from Adam's torso, "Manlike, but different sex, so lovely fair (8.471). God shapes Eve not just from Adam's bone but from the very matter that composes the cosmos. Milton's description of Eve as "manlike" masculinizes only insofar as it characterizes shared corporeality. Even in their darkest hour, Adam's materialist promise to Eve echoes marriage vows, "Flesh of flesh / Bone of my bone thou art, and from thy state / Mine never shall be parted" (9. 914-6). Homo-materialism avows shared materiality between genders as well as across ontological borders. The point is made most vividly in Raphael's narration of angelic intercourse, which Goldberg insists is "undeniably homo": "Whatever pure thou in the body enjoy'st … we enjoy / In eminence" (8.622-4). Raphael proceeds to describe the supernal concoction, "Total they mix, union of pure with pure / Desiring," ignoring impediments "of membrane, joint, or limb" (8.627-8, 625). Hierarchized angelic order, which is also heavenly difference, dissolves into unobstructed ecstasy. Foucault might call angelic sex an "event," which "is neither substance, nor

accident, nor quality nor process; events are not corporeal. And yet, an event is certainly not immaterial; it takes effect, becomes effect, always on the level of materiality" (231). Angelic incorporeality does not preclude materiality but rather constitutes a becoming-body, a body in flux, or what Deleuze and Guattari refer to as a "body without organs."[13] Moreover, divine coitus as non-procreative sex, Goldberg briefly observes, finds its counterpart not only in prelapsarian sex—Adam and Eve do no reproduce until *after* the fall—but also in the "sex lives of plants in Eden whose exuberance includes 'fruitless embraces'" (195). Goldberg's angelic intervention is also an invitation to ponder the desires of other nonhumans—for me, specifically plants—and the ways in which same sex desire transgresses the species border in *Paradise Lost*.

The sexualization of plants and the notion that plants inhabit their own sexualities is more an invention of the eighteenth century than of the Renaissance; however, eighteenth-century discoveries in botany were spurred by the cultural and scientific demands of the previous century. In *Nature's Body*, Londa Schiebinger informs us that during "the seventeenth century, academic botanists began to break their ties with medical practitioners"—the herbalists, physicians, and naturalists of the sixteenth century—and instead approached the "[n]ew plant materials from the voyages of discovery and the new colonies" coming into Europe for the very first time (14). The number of plants known to Europeans quadrupled in number between 1550 and 1700. With such a massive influx, "emphasis on classification turned from medical application to more general and theoretical issues of pure taxonomy," finding ways to organize a constantly growing amount of information. One way to do this, at least for the father of modern taxonomy, was to mobilize human tropes of sex and gender into scientific

discourses of classification. In his *Systema naturae* (1735), Carl Linnaeus developed a system of organization, popularly known as binomial nomenclature, based on sexual difference in which certain anatomical parts of plants correspond with either male or female human genitalia. His taxonomical method, Schiebinger tells us, "though focused on reproductive organs, ... did not capture fundamental sexual functions" (17). Instead, like his early modern predecessors who saw themselves in the anatomies of plants, "it focused on purely morphological features." For example, the stamen, the pollen containing anther, corresponds to the male penis, while the pistil corresponds to the female ovary. Linnaeus' approach, however, was not entirely new; he borrowed such representations from early modern notions of anatomical analogy. He was no doubt familiar with Philemon Holland's 1601 translation of Pliny's *Natural History*, which includes a description of a species of "male frankincense," so named for its resemblance to human testes, as well Joseph Pitton de Tournefort's 1609 standardization of the term pistil (*pistile* in French) to classify the ovary of the flower. That is to suggest, the ways in which eighteenth-century botanists mapped human sexuality onto plants find their antecedents in early modern discourses of botany, medicine, and natural history.

Schiebinger identifies "two levels in the sexual politics of early modern botany," the first being "the *implicit* use of gender to structure botanical taxonomy" and the second," the *explicit* use of human sexual metaphors to introduce notions of plant reproduction into botanical literature" (13). Linnaeus not only sexes plants in terms of morphological similitude to human genitalia but also conscripts botanical reproduction into what Adrienne Rich calls "compulsory heterosexuality." He describes in *Praeludia sponsaliorum plantarum* how plants perform heterosexual rituals of courtship:

> The flowers' leaves … serve as bridal beds which the Creator has so gloriously arranged, adorned with such noble bed curtains, and perfumed with many soft scents the bride-groom with his bride might there celebrate their nuptials so much the greater solemnity. When now the bed is so prepared, it is time for the bridegroom to embrace his beloved bride and offer her his gifts. (Linnaeus qtd. in Schiebinger 22-3)

Reading his descriptions of botanical reproduction, one might easily forget that Linnaeus is writing about plants and not humans. The victims of heteronormative anthropomorphism, plants, for Linnaeus are highly erotic creatures who not only have sex with each other but do so within the cultural directives of marriage. These botanical marriages, however, were always already queer, not only the ways in which plant reproductive functions cross with those of humans, but also because flowers pose an interesting morphological problem; they possess both male and female sex organs. They are hermaphroditic. The theory of sexual dimorphism unravels against a floral body that unites the male with the female, the masculine with the feminine, the bridegroom and his bride within its own virescent anatomy, in turn, problematizing categories of "natural sex." Sexual difference as well as gender difference are represented as divisions within the figure of the plant itself, which, for Linnaeus, is not the Other of the human but rather that which becomes human-like in scientific operations of classification.

PART FOUR: EYEING FLOWERS

Paradise Lost is a veritable herbarium of medicinal herbs, flowers, and fruit that take effect not according to a logic of botanical, sexual dimorphism but rather by a theory

of therapeutic, anatomical resemblance. After the Fall, the archangel Michael restores Adam's lost eyesight with the help of a common herbal remedy:

> Michael from Adam's eyes the film removed
> Which false fruit that promised clearer sight
> Had bred; then purged with euphrasy and rue
> The visual nerve, for he had much to see. (9.411-5)

"Euphrasy," popularly known as "eyebright" but referred to by taxonomists as *Euphrasia officinalis*, is a botanical genus comprising hundreds of varieties of flowering plants indigenous to the dry heaths and pastures of Europe, Asia, and North America. Because of its distinct morphology but mostly for its pharmacological potency, several European species of eyebright quite literally "caught the eye" of sixteenth and seventeenth-century naturalists. Early modern herbals, including Gerard's *Generall Historie*, declare the plant to serve as "a most sovereign remedie" for eye diseases: "Eye-bright … taketh away all hurts from the eyes, comforteth the memorie, and cleareth the sight, if halfe a spoonful be taken euery morning" (663).[14] Folkloric medicine believed eyebright to literally brighten eyes dimmed by sickness. These days, many physicians would agree. A recent medical study indicates that eyebright safely and effectively treats eye infections, especially conjunctivitis, an ailment notorious for producing a viscous, mucoid film over the eye's exterior surface, which blurs and sometimes even impairs vision.[15] Eyebright reduces the severity of these symptoms. Although the findings of this study give credence to Michael's medicine, this is not to say that Milton's Adam is afflicted by conjunctivitis. (In fact, he is afflicted by something much, much worse—the wrath of God and expulsion from Paradise.) My goal is not to retrospectively diagnose. Rather, I am arguing for the

ways in which Milton's literary text intercepts the mythos of early modern folk medicine, while simultaneously entangling the chemical molecularities of homeopathic pharmacology. Taking my cue from conjunctivitis, that is, *conjunctivus* from the Latin *conjugere*, meaning "to join together," my aim throughout this chapter has been to show how Milton produces "joinings" across species, cognitive as well as horticultural graftings between humans and plants in intimate relation.

Herbals were popular texts during the early modern period. In a recent essay, Elaine Leong demonstrates the centrality of these massive compendiums as vernacular sources for domestic healthcare and women's medicine. They contain pictorial representations of plants alongside explanations of their medicinal properties, general appearance, and growth patterns. Because these manuals were so widely available during the seventeenth century, Milton, who suffered from glaucoma and eventual blindness, was likely familiar not only with eyebright and its therapeutic virtues but also with the pseudoscientific discourse of herbal medicine. James Patrick McHenry goes so far to suggest that he was probably an "expert on the subject" (67), citing Milton's prose piece, "Of Education," in which he espouses learning natural histories of … plants" and inheriting "the helpful experiences of … gardeners" (231). We also know from Milton's epistolary correspondence that he was concerned with finding a cure for his waning vision. In a 1654 letter to Leonard Philaras, he requests medical advice from the Parisian oculist, Thévenot, hoping that "he can diagnose the causes and symptoms of the disease" (722). In the same year that Milton met Philaras, Nicholas Culpeper, an up-and-coming herbalist, published a well-known pharmacopeia, which stated that eyebright "helpeth all infirmities of the Eyes that caus dimness of Sight," deriving its botanical potency "under

the sign of Leo" (49). Eyebright's appearance as a pharmaceutical in *Paradise Lost* evinces Milton's familiarity with homeopathy. He may have even attempted these botanical remedies on his own weakening eyes as he exhausted the possibilities for a cure. That's all to say that Milton's personal health, his epic poem, and plants intersect at this point of pharmacological discourse.

While Culpeper attributes eyebright's curative power to the seasons and stars, molecular biology locates the flower's power in its abundant antioxidants. Antioxidants are molecules that inhibit oxidation, a chemical process of electron transference, which often results in cell or tissue damage. Eyebright's antioxidants inhabit the plant's cell walls and possess salubrious binding properties that protect the human body and its corollary parts against viruses, inflammation, and allergens, especially those that afflict the eyes. Milton, however, did not know about antioxidants. Nor did he have access to the modes of scientific knowledge, technology, and discovery through which acutely modern epistemologies of bodies, human as well as nonhuman, are produced. Instead, early moderns relied on a religious and scientific theory of embodiment known as the Doctrine of Signatures and for—what they though was—good reason.

The intellectual seeds for the Doctrine of Signatures were first planted by Paracelsus during the sixteenth century. Working as a physician, astrologer, and naturalist on the continent, Paracelsus developed a philosophy which combined Christian Neoplatonism, as revived by Marsilio Ficino and Pico della Mirandola of the Florentine Academy, with the late medieval alchemical tradition. Not unlike McColley, who identifies Milton's materialism as a Christian hylozoism, F. David Hoeniger characterizes his metaphysics as Paracelsian, "a vitalist interpretation of the universe, which postulates

that everything in creation is alive and interacts, … the earth with its minerals, the air with its winds and clouds, and the planet" (119). Indeed, in *The Matter of Revolution*, John Rogers argues that Milton's materialism arises not from Lucretian atomism but from Paracelsian cosmography, "Milton, like a number of midcentury vitalists, claims affinity with a philosophy of matter derived ultimately from … [t]he theories of the microcosm developed by Paracelsus … that linked man and the universe in a self-contained cosmic economy of interflux and exchange" (10). According to Paracelsus, all of the world's beings were marked by divine signatures, which foretold their particular role or function within the world. These signatures were not mere signs—that is, inert, passive, or mute objects onto which meanings were inscribed—but rather, they incarnated a complex, cosmographical material-semiology. Signatures were materialized in the tissues, joints, and sinews of the earth's heterogeneous bodies. They were manifest as shapes, odors, colors, and textures. Although Paracelsian signatures were naturally exteriorized, these embodied hieroglyphs were cryptic and something difficult to decipher. Early modern naturalists were charged with the task of "reading" these somatic marks and discerning their usefulness to humans.

Plant signatures were especially important during this time. The Doctrine of Signatures suggested that the morphology of a plant corresponds to its therapeutic effect on a specific part of the human body sharing similar morphological features. For instance, the leaf of *Hepatica acutiloba*, otherwise known as liverwort, is shaped like a liver and, therefore, might be used to treat liver disease. Or, to borrow an example from William Cole's *The Art of Simpling*:

> The kernel [of a walnut] hath the very figure of the Brain, and therefore it

> is very profitable for the Brain, and resists poysons; for if the Kernel be bruised, and moystned with quintessence of Wine, and laid upon a Crown of the Head, it comforts the brain and head mightily. (3)

Simply put, form fits function. The outward characteristics of plants determine their curative value. The same applies to Milton's eyebright. The zygomorphic structure of its flower—the bilateral symmetry of the floral plane—produces morphological analogy between the blossom and the human eye. Coles elaborates, "The purple and yellow spots and stripes which are upon the flowers of the Eyebright doth very much resemble the diseases of the eye, as bloodshot, etc., by which signature it hath been found out that this herb is effectual for the curing of the same" (46). Because the plant *looks* like an infected eye, it was believed to heal an infected eye. The Paracelsian, homeopathic method of *similia similibus curantur* ("like cures like") diverged from the prevailing Galenic, allopathic method of *contraria contraris curantur* ("opposite cures opposite"). The Doctrine of Signatures purported sameness to be more therapeutic and "sovereign" than difference.[16]

Not everyone, however, was convinced by the Doctrine of Signatures. In 1691, John Ray, a prominent natural historian, insisted that the Doctrine of Signatures was "rather fancied by men than designed by Nature" (85-6). Contemporary biologists echo this sentiment, deriding the Doctrine of Signatures, having "proved" it a quaint, blindfolded theory from days of yore. Bradley Bennett, for example, describes it as "primitive superstition" and a "much maligned theory" that was "primarily a symbolic device used to transfer information especially in preliterate societies" (246). To me, whether the Doctrine of Signatures is empirically "right" or "wrong" is neither here nor

there. As part of a homohistory, it provides a conceptual model through which plants became desirable by the seductive contours of their leafy bodies as well as the unseen powers of their chemical compounds. By generating anatomical resemblances between humans and plants, early moderns inspired a form of cross-species intimacy that, by its very nature, evokes homosexuality, the "fancy" for the shape and proportion of one's own body in the body of another.

Returning to Foucault, I want to provisionally propose the recursivity of homosexuality or, at the very least, the latency of cross-species homoeroticism in one of his earlier texts, *The Order of Things*, by suggesting that homo-desire was never an exclusively human phenomenon. He tells us that, during the early modern period, "resemblance" played a vital role in productions of Western knowledge, "The universe was folded in upon itself: the earth echoing the sky, faces seeing themselves reflected in the stars, and plants holding within their stems the secrets that were of use to man" (17). The heterogeneous bodies of the world shared a "mutual attraction for one another," not because of their difference but because of their similarity. These resemblances were made legible by their signatures—nature's embodied semiology—and linked humans to their nonhuman counterparts in a cosmographical desire for sameness. The word was made flesh, and the flesh was made word through the universe's involuted material-semioticity. Humans saw themselves in the signatures of plants and were therefore drawn to them. They recognized their eyes in flowers, their hearts in leaves, and their veins in the fibers radiating through the earth's botanical anatomies. Through what we might consider desubjectifying affect, Foucault argues that sympathy is this natural impulse toward sameness:

> Sympathy is an instance of the *Same* so strong and so insistent that it will not rest content to be merely one of the forms of likeness; it has the dangerous power of *assimilating*, of rendering things identical to one another, of mingling them, of causing their individuality to disappear—and thus of rendering them foreign to what they were before. Sympathy transforms. It alters. (23)

As edges intermingle, sympathetic bodies move and change one another indelibly. Foucault, however, explains that complete and utter implosion into sameness is prevented by sympathy's twin, antipathy, which "encloses species within their impenetrable difference" (24). The balancing act between sympathy and antipathy ensures that resemblances exist without the total integration of discrete, singular bodies.

Foucault's account of sympathy relies on an episteme of analogy which, in *The Order of Things*, is proper to a particular historical epoch in the history of representation and which further limits desire for sameness to nothing more than mere similarity. Milton, on the other hand, radicalizes sympathy into a more ontological as well as a more cognitive understanding of affective materiality. Plant matter acquires affective density not only through its morphological equivalency to humans but also through the minimum cognition of the its sensorimotor and information gathering systems, from the brain-like root apex to the light sensitive leaves to the heliotropic blossoms. Most of these processes are silent and, to borrow Deleuze and Guatarri's term, imperceptible, as they occur slowly and often at the micro-level of the cell, membrane, and organelle. A brain is not required. Openly and admittedly risking anthropomorphism, plant biologist and geneticist Daniel Chamovitz argues for botanical sympathetic systems that are distinctly not

nervous but that nonetheless correspond to the five human senses. In *What a Plant Knows*, he writes:

> Plants don't have a central nervous system; a plant doesn't have a brain that coordinates information for its entire body. Yet different parts of a plant are intimately connected, and information regarding light, chemicals in the air, and temperature is constantly exchanged between roots and leaves, flowers and stems, to yield a plant that is optimized for its environment. We can't equate human behavior to the ways in which plants function in their worlds, but I ask that you humor me while I use terminology through the book that is usually reserved for human experience. (5)

Chamovitz' contention that plants can see—"plants monitor their visible environment all the time," he writes—advances yet another mode of human-animal resemblance that, unlike the Doctrine of Signatures, privileges function over form (9). As the Darwins believed in root brains, so too did they allege the existence of a plant "eye," specifically a light sensitive structure imbedded in the plant's stem that determines the direction in which it bends (Darwin 566, Chamovitz 14-5). Both humans and plants are able to detect light, transfer that stimulus to other parts of their bodies, and then respond accordingly. Both also possess photoreceptors, specialized cells evolutionarily configured to capture photons (particles representing a quantum of light). While plants possess photoreceptors unique to plants and humans possess photoreceptors unique to mammals, resemblance might be detected further down the neurobiological chain at the level of the molecule. "Plant and human photoreceptors," Chamovitz observes, "are similar in that they all

consist of a protein connected to a chemical dye that absorbs the light" (24). Does our desire for cross-species similitude lead us into the involuted tertiary structures of proteins? Where the micro-processes of light detection fold and unfold similitude and difference across cellular membranes? Deleuze and Guattari did promise becoming-molecular.

Eyebright may have looked like a human eye to early modern naturalists and, by such shape, proved its medicinal virtue, but while it was able to cure Adam's ailing vision in *Paradise Lost*, it couldn't save Milton's. Blindness, it might be worth noting, is also a botanic affliction, affecting plants in two distinct ways. The first is anatomical. A plant is structurally "blind" if it lacks buds or flowers. The second is sensory. "Blind" plants are unable to perceive light. Plants grown in darkness tend to grow longer and spindlier as they search for a light source, although "blind," as Chamovitz uses the term, refers to a mutant species that has been genetically engineered to *not* sense light or certain colors in the light spectrum (20-23). It is by such engineering that scientists were able to learn that plants possess roughly double the photoreceptors of humans and that, while plants do not "see" in images as animals do, they are able to perceive minute variations in color. Plants use this information to coordinate rest, photosynthesis, and germination. By genetically "turning off" the expression of certain photoreceptors, science effectively blinds plants to specific colors of the light spectrum.[17]

Early modern plants, however, were meant to see and to be seen, not only by humans in the pages of herbals or in carefully cultivated gardens but also by seed-bearing animals that alight upon their protuberances for sustenance, reproduction, and survival. Even through the lens of the microscope, Nehemiah Grew revealed for the very first time

botanical cellular structures in his 1682 *Anatomy of Plants*. "As imaging systems in their own right," Swarbrick asserts, plants are "evolutionarily adapted" to "[train] human perception" (4). Joanna Picciotto agrees that flowers in *Paradise Lost* are such imaging systems, serving as lenses or, rather, "floral spectacles" not for Adam and Eve but for Milton's reader, "Milton literally makes flowers into spectacles … [to] reform the 'eyes' planted in us … to imagine ourselves—sexual creatures condemned to work—as paradisal subjects" (477). This is the moral prerogative of flowers. Be that as it may, plants are not mere tools designed to instrumentalize or compensate for human deficiencies. These prescient pedagogues make use of their own sophisticated visual systems to see us, to sense our presences when we are nearby, and to bend our wills to theirs. Chamovitz observes, "Plants see if you come near them; they know when you stand over them … they … see light in many ways and colors that we can only imagine" (9). What then might this mean for Milton's Adam or even the poet himself to encounter an herb that likewise encounters him? Or for the forbidden fruit, suspended from the tree of knowledge in its seductive grace, to sense Eve's inevitable approach, the shadow of her hand, the draw of her lips? Its wiles are as deliberate as they are delicious.

When Milton asks his muse to inwardly "there plant eyes" in Book 3, the word "plant" presents a textual crux:

> So much the rather thou celestial light
> Shine inward, and the mind through all her powers
> Irradiate, there plant eyes, all mist from thence
> Purge and disperse. (3.50-3)

One could read "plant" as a verb, the conventional reading, in which the blind poet covets prophetic inner sight like "Blind Thyramis and blind Maeonides / And Tiresias and Phineus prophets old" (3.35-6). That is, the poet asks his muse to grant him interior eyes so that he may "see and tell of things invisible to mortal sight" (3.54-5). The irradiated "celestial light" and the purging of "all mist" make such perspicacious vision possible. Eyebright achieves a similar effect for Adam after the fall, as Picciotto observes, "The purgative powers of … herbs pierce into 'the inmost seat of mental sight,' forcing sensitive eyes to close; once again, the eye is dug into, so that it can start to dig" (487). The eye becomes a hole, a figure of depth and openness filled with nerves, roots, and soil. Behind it might be a brain, but that is not certain. The verbal, "to plant," denotes not only the act of digging but also the seeding and cultivation of terrain: the willful deposit of a germinating organism into a substrate that will incubate and minerally nurture its growth. The eyes, then, are like seeds that the muse will plant in the intellectual matter of the poet's light-filled mind.

The alternative reading is to interpret "plant" as an adjective modifying "eyes"—not "there plant eyes," a spatial directive, but rather "there *plant eyes*." The logic of this reading is more opaque than the first but suggests that "plant eyes," which might represent buds, flowers, or even a strange anthropomorphic hybrid, become surprisingly sensate in the luminescent topography of the author's brain. Milton's cognitive ecology in *Paradise Lost* urges us not only to know plants but also to know that plants know. We are not alone in the garden.

Works Cited

Alpi, Amedeo, et. al. "Plant neurobiology: no brain, no gain." *Trends in Plant Science* 12.4 (2007): 135-136.

Aristotle, *De Anima* (On the Soul). *The Complete Works of Aristotle, Volume One*. Ed. J. Barnes. Trans. J.A. Smith. Princeton: Princeton University Press, 1984.

Barad, Karen. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham: Duke University Press, 2007.

Bennett, Bradley. "Doctrine of Signatures: An Explanation of Medicinal Plant Discovery or Dissemination of Knowledge." *Economic Botany* 61.3 (2007): 246-255.

Bersani, Leo. *Intimacies*. Chicago: University of Chicago Press, 2008.

—. Sociality and Sexuality." *Critical Inquiry* 26.4 (2000): 641-656.

Boehrer, Bruce. "Lycidas: The Pastoral Elegy as Same-Sex Epithalamium." *PMLA* 117.2 (2002): 222-236.

Coles, William. *The Art of Simpling; an Introduction to the Knowledge and Gathering of Plants*. London: Printed by J.G. for Nash, 1656.

Culpeper, Nicholas. *The English Physician; or an Astrologo-physical Discourse of the vulgar Herbs of this Nation*. London: Printed by William Bentley, 1652.

Darwin, Charles. *The Power of Movement in Plants*. London: John Murray, 1880.

Deleuze, Gilles and Felix Guattari. *A Thousand Plateaus: Capitalism and Schizophrenia*. Trans. Brian Massumi. Minneapolis: University of Minnesota Press, 1987.

Derrida, Jacques. *Dissemination*. Trans. B. Johnson. Chicago: University of Chicago Press, 1981.

Dictionarium Brittanicum. Ed. G. Gordon P. Miller, and N. Bailley. London, 1730. qtd. in Schiebinger.

Foucault, Michel. *The Archaeology of Knowledge*. Trans. A.M. Sheridan Smith. New York: Pantheon, 1972.

—. *The History of Sexuality, Vol. 1*. Trans. Robert Hurley. New York: Vintage Books, 1990.

—. *The Order of Things: An Archaeology of the Human Sciences*. New York: Vintage Books, 1994.

Garzón, Paco Galvo and Fred Keijzer. "Plants: Adaptive Behavior, Root Brains and Minimal Cognition." *Adaptive Behavior* 19.3 (2011): 155-171.

Gerard, John. *An Herball and General Historie of Plants*. London: John Norton, 1597.

Goldberg, Jonathan. *The Seeds of Things: Theorizing Sexuality and Materiality in Renaissance Representations*. New York: Fordham, 2009.

Goldberg, and Madhavi Menon. "Queering History." *PMLA* 120.5 (2005): 1608-1697.

Grew, Nehemiah. *The Anatomy of Plants with an Idea of a Philosophical History of Plants*. London: W. Rawlins, 1682.

Grosz, Elizabeth. "A thousand tiny sexes: Feminism and rhizomatics." *Topoi: An International Review of Philosophy* 12.2 (1993): 127-179.

Hiltner, Ken. *Milton and Ecology*. Cambridge: Cambridge University Press, 2003.

Hoeniger, F. David. *Medicine and Shakespeare in the English*. Newark: University of Delaware Press, 1992.

Holstun, James. "'Will You Rent Our Ancient Love Asunder': Lesbian Elegy in Donne, Marvell, and Milton." *English Literary History English Literary History* 54.4 (1988): 835-867.

Leong, Elaine. "Herbals she peruseth"; reading medicine in early modern England." *Renaissance Studies* 28.4 (2014): 556-78.

Linnaeus, Carolus. *Praeludia sponsalorium planatrum*. 1729. qtd. in Schiebinger.

McColley, Diane. *Poetry and Ecology in the Age of Milton and Marvell*. Burlington: Ashgate, 2007.

Mancuso, Stefano and Alessandra Viola. *Brilliant Green: The Surprising History and Science of Plant Intelligence*. London: Island Press, 2015.

McHenry, James Patrick. "A Milton Herbal." *Milton Quarterly* 30.2 (1996): 45-110.

Milton, John. *Areopagitica*. *The Major Works*. Ed. Stephen Orgel and Jonathan Goldberg. New York: Oxford University Press, 1991. 236-273.

—. "Of Education." 226-236.

—. *Paradise Lost*. 355-618.

—. "To Leonard Philarus, 1654." 721-723.

Moffett, Thomas. *Insectorum sive minimorum animalium theatrum* in Topsell, Edward, *The History of Four-footed Beasts and Serpents*. London: Printed by E. Cotes, 1658.

Nielsen, Claus. *Animal Evolution: Interrelationships of the Living Phyla*. Oxford: Oxford University Press, 2011.

Ovid. *Metamorphoses*. Trans. Arthur Golding. London, 1567.

Paduch, Roman. "Assessment of Eyebright (*Euphrasia Offinicalis L.*) Extract Activity in Relation to Human Corneal Cells Using In Vitro Tests." *Balkan Medical Journal* 31.1 (2014): 29-36.

Picciotto, Joanna. *Labors of Innocence in Early Modern England*. Cambridge: Harvard University Press, 2010.

Rambuss, Richard. *Closet Devotions*. Durham: Duke University Press, 1998.

Ray, John. *The Wisdome of God Manifested in the Works of the Creation*. London: Printed for Samuel Smith, 1691.

Rich, Adrienne. "Compulsory Heterosexuality and Lesbian Existence." *Blood, Bread, and Poetry*. New York: Norton, 1986. 23-75.

Rogers, John. *The Matter of Revolution: Science, Poetry, & Politics in the Age of Milton*. Ithaca: Cornell University Press, 1996.

Schiebinger, Londa. *Nature's Body: Gender in the Making of Modern Science*. New Brunswick: Rutgers University Press, 2008.

Sedgwick, Eve Kosofsky. *The Epistemology of the Closet*. Berkeley: University of California Press, 1990.

Shannon, Laurie. *The Accommodated Animal*. Chicago: University of Chicago Press, 2013.

Shawcross, John. "Milton and Diodati: An Essay in Psychodynamic Meaning." *Milton Studies* 7 (1975): 127-164.

Spinoza, Benedict de. *Ethics*. Trans. Edwin Curley. New York: Penguin, 1996.

Stockton, Will. "Adam and Even and the Failure of Heterosexuality." *Queer Renaissance Historiography: Backward Gaze*. Eds. Vin Nardizzi, Stephen Guy-Bray, and Will Stockton. Burlington: Ashgate, 2009. 207-227.

Stoss, Matthias et. al. “Prospective Cohort Trial of *Euphrasia* Single-Dose Eye Drops in Conjunctivitis.” *The Journal of Alternative and Complementary Medicine* 6.6 (2000): 499-508.

Whitney, George. *Choice of Emblemes and Other Devises*. Leiden: Christopher Plantijn, 1586.

---

[1] The very concept of plant neurobiology has proven controversial in recent years. A group of 36 botanists criticized the burgeoning field in the journal, *Trends in Plant Science*, arguing that, because plants lack brains, neurons, and synapses, “plant neurobiology” is nothing but a misnomer.

[2] The neuralia include cnidaria, ctenophora, and bilateria, characterized by specialized neuronal systems in the absence of a central nervous system.

[3] Garzón and Keijzer outline five requirements of cognition: “1. Metabolism provides a basic form of biochemical normativity for cognition. 2. Cognition proper (initially) consists of exploiting the spatiotemporal dispersal characteristic of metabolically relevant environmental features. 3. The spatiotemporal structure of the environment is accessed by free and reversible body movement enables by various sensorimotor organizations. 4. A basic sensorimotor organization operates online—being under direct stimulus control—but can be expanded to include offline control structures. 5. Such a sensorimotor-based cognitive organization is a globally organized cohering unit, not a collection of individual stimulus-response relations” (162). They note that plants adhere to the first tenets, while problematizing the latter three.

[4] Aristotle, in *De Anima*, describes common sense as the means by which the mind converts sensory perception into objects to be apprehended. For more, see Book III, Chapter 2.

[5] Deleuze and Guatarri's theory of becoming is heavily reliant on the work of another seventeenth-century monist, Benedict de Spinoza, whose theory of affect situates bodies in dynamic relationality to others. Spinoza observes, “The motion and rest of the body must arise from another body, which has also been determined to motion or rest by another.” Bodies are defined not so much by their solidity or substance as to degrees of motion, intensity, and their capacity to become as such by establishing contingent and productive connections. Spinoza formulates three affects: joy, sadness, and desire. He argues that “the various affects can be compounded with one another in so many ways, and that so many variations can arise from the composition that they cannot be defined by any number.” The combinatory possibilities of the affects, as they ebb through intensifications and diminishings, are ultimately non-totalizable and constitute the becoming-body in specific and profound ways. Yet, for Spinoza, it is precisely the affect of desire which functions as every body's essence—an enduring appetite for increasing one's potential to be affected by other bodies in motion. It is this conception of desire

tending toward contingency, relationality, and multiplicity which Deleuze and Guattari find so utilizable. For them, *affect is becoming*.

[6] Divagating from psychoanalytic perspectives which understand desire as an ontological lack striving to be filled by an ever elusive object, Deleuze and Guattari, Elizabeth Grosz suggests, re-conceive desire "as immanent, as positive and productive, a fundamental full and creative relation. Desire is what produces, what makes things, forges connections, creates relations, produces machinic alignments ... [D]esire is an actualization, a series of practices, action, production, bringing together components, making machines, making reality."

[7] Stefano Mancuso and Alessandra Viola, prominent figures in the field of plant neurobiology, show that Darwin's root brain is more rhizomatic than cerebral, demonstrating, for example, the ways in which millions of sensory root tips belonging to a single plant comprise a distributed cognitive system, and they communicate, Mancuso and Viola hypothesize, via chemical signals to coordinate growth. They connect this form of distributed cognition to the insect hive mind, "Lacking a specific organ to supervise cognitive functions, plants developed a form of distributed intelligence, typical of swarms and many other living beings: when the individuals constituting a swarm are together, they display so-called emergent behaviors which don't exist in individual organisms" (145).

[8] Joanna Picciotto also describes an ascension step by step toward God in *Labors of Innocence in Early Modern England*, "If humans are to grow up to godhead through 'contemplation of created things,' they have to ascend together, "By steps."

[9] Both editions of *Paradise Lost* published during Milton's lifetime including "smelling gourd," which Bentley revised to "swelling gourd" in his 1732 edition.

[10] Virgil's *Georgics* of course precedes Milton's scene of rural labor but so too does Ovid's account of Vertumnus and Pomona from the *Metamorphoses*, which makes of the image of a vine climbing an elm to illustrate the reciprocal benefits of marriage. Milton makes explicit the parallels between Eve and Pomona, comparing Eden to "Pomona's arbor" and Eve's departure from Adam to "Pomona['s] when she fled Vertumnus," (5. 377-8, 9. 394-5). Coincidentally, the myth of Vertumnus and Pomona proved a popular subject for Renaissance artists and writers in England as well as on the continent. Andrea Alciato's woodcut of a vine and elm from his *Emblematum liber* (1531) found its way into Geffrey Whitney's *Choice of emblemes* (1586) accompanied by a short poem advocating the benefits of friendship in old age: "wee shoulde be linck'de with such a frende" as a "fruictefull vine" blooming on a "rotten, drie, and dead" elm "when wee bee oulde" (3; 5, 7-8). On canvas, the vine and elm appeared in paintings by Francesco Melzi (c.1517-1520), Luca Giordano (c.1682), and Gerbrand van den Eeckhout (1669), but most curious is Giuseppe's Arcimboldo's portrait of Rudolf II as Vertumnus in which his face is composed entirely of fruits, vegetables, and flowers. Arcimboldo's *Vertumnus*

renders the human edible as it literalizes erotic metaphors conventionally reserved for feminine beauty.

[11] Redness and fairness are hallmarks of a Petrarchan color scheme adopted by early the modern sonneteers and metaphysical poets alike. Richard Rambuss connects red and white to "the erotic postures and blandishing conceits of the Renaissance love lyric" (13).

[12] Fennel, it's worth noting for purposes that will become clearer later in the chapter, was used by early modern physicians to treat diseases of the eye. See, for example, Walter Bailey's (1529-1592) *The Brief Treatise Touching the Perseruatoin of the Eie Sight* that was published in multiple editions between 1586 and 1673.

[13] The body without organs (BwO) should not be taken literally as a body lacking viscera but should be understood instead as the virtual dimension of the body, "the limit … to which all bodies aspire" (Grosz, 174). Refusing the structure and organizations of bodies, the BwO, Deleuze and Guattari allege, is "non-stratified, unformed, intense matter" (153).

[14] In the *Accommodated Animal*, Laurie Shannon points us to the notion of plant sovereignty in Philemon Holland's 1601 English translation of Pliny's *Historia Naturalis* (108). If a plant proves an effective remedy for a corporeal malady, then it is deemed "sovereign."

[15] Scientists tested three extracts of *E. officinalis* for "free radical scavenging activity" and "immunomodulatory effects," finding that ethanol and ethyl acetate (and not heptane) prove effective at certain concentrations (Paduch et. al., 29). Another study found that drops made from eyebright "can safely and effectively be used for various conjunctival conditions" (Stoss, 499).

[16] Galenic theory upholds that the human body is filled with four basic substances, called humors, which are balanced in a healthy individual. The four humors are black bile, yellow bile, phlegm, and blood. All diseases and disabilities result from an excess or deficiency of one of these humors. For example, if the body exhibits an excess of phlegm, a characteristically cold and moist humor, then it should be treated by a plant demonstrating hot and dry qualities in to order to re-calibrate humoral equilibrium.

[17] Chamovitz cites the 1980s experiments of Maarten Koornneef in which scientists poisoned *Aravidopsis thaliana* to cause mutations in its DNA, in turn, producing seedlings that were blind to certain colors of light (20-22).

CHAPTER 3

BUZZ KILL: INSECTICIDE AND PARASITIC EMOTION ON THE EARLY MODERN STAGE

Am not I
A fly like thee?
Or art not thou
A man like me? […]

If thought is life
And strength and breath,
And the want
Of thought is death,

Then am I
A happy fly,
If I live,
Or if I die.

—William Blake, "The Fly"

PART ONE: INSECT STAGES

In the third act of Thomas Dekker and Philip Massinger's Jacobean stage play, *The Virgin Martyr*, Harpax, a devil in the disguise of a secretary, enjoins the scoundrelly Hircius and Spungius to bodily contact, "Come let my bosome touch you," (3.3.150) to which Spungius replies, "We have bugges Sir" (3.3.151). The script fails to indicate whether or not Harpax heeds Spungius' warning, but the danger of contact is clear. "Bugges" are contagious. The *Oxford English Dictionary* suspects that the men's "bugges" belong to *Cimex lectularius*, a taxonomy of parasitic insects that subsist on the blood of humans. Commonly known as "bedbugs" but referred to as "wall-lice" in early modern England, these furniture-dwelling arthropods were classified by the sixteenth-century physician, Thomas Moffet (of "Little Miss Muffet" fame), who observed that they "[seek] after living creatures that are asleep" (1096). Spungius is right to warn

Harpax of his "bugges." Even then, wall-lice were known to provoke adverse health effects in humans, the least of which were itchy red bumps. Harpax, however, might have been unfazed by the threat of bedbugs because he, like most early moderns, had probably encountered them before. Humans and "bugges" were bedfellows in the most literal and intimate sense, for as Lisa Sarasohn observes in a recent essay, "being bitten in bed was a fact of life" (515). Even the diarist Samuel Pepys, she suggests, was "amused and not abused" by the tiny parasites. "Our beds [were] good, but lousy; which made us merry," he once wrote.

"Bugges" in Dekker and Massinger's tragedy not only materialize an epidemiological threat, but they also identify culturally unsavory populations at the dregs of society. Dekker complains of such lowlifes in a 1608 pamphlet: "They are the idle drones of a Countrie, the Caterpillers of a common wealth, and the Aegiptian lice of a Kingdome," with "Aegiptian lice" referring to the third of ten plagues inflicted by Israel's God in the book of Exodus (82). As Karen Raber points out in *Animal Bodies, Renaissance Culture*, figurations of "invertebrate vermin are often inextricably woven with fears about … those who represent an internal threat to the social order" (122). Hircius the whoremaster and Spungius the drunkard represent this marginal category of *social vermin*. As they parasitize their surroundings—grubbing for money, sex, booze and even taking advantage of Dorothea, the virgin martyr herself—the men's bodies play host to colonies of parasites that render them untouchable. Their skins are habitats, feeding grounds penetrable to insectile mandibles evolutionarily designed to exploit mammalian capillaries. Flows go both ways. Strange bodies touch, and fluids mingle. The insect injects salivary anticoagulants into the skin as it extracts a bloody meal across

the species border. Feminist science scholar, Donna Haraway, might call the men and their parasites "messmates" in a symbiogenetic relationship of ingestion: "Trying to make a living, critters eat critters but can only partly digest one another. Quite a lot of indigestion, not to mention excretion, is the natural result, some of which is the vehicle for new sorts of complex patternings of ones and manys in entangled association" (31). The word "parasite" itself recalls these gastric entanglements—*para* meaning "alongside," *sitos* meaning "food"—in which humans and insects eat together as they eat each other.[1] Hircius and Spungius exchange one form of bodily contact for another, human for insect. This alternate form of contact, of habitation and infestation, blurs the boundary between parasite and host for, as Michel Serres reminds us, "The host, the guest," in French, are "the same word," *hote* (15). Or as Raber asks, "If our bodies are invaded by and colonized by creatures that are distinctly other, with their own needs and drives, what kind of 'self' can we claim for human beings?" (111).

Coping with the uncomfortable side effects of infestation, Hircius complains, "Oh my elbow itches" (3.3.190) as he advises Harpax to "auoid vermine" (3.3.152). The suggestion is an exercise in futility, for how can Harpax avoid the unavoidable? Even if he wanted to, he would be betrayed by carbon dioxide and other thermal, mechanical, and chemical signals released by his body that attract "bugges" to his skin (Guerenstein and Lazzari, 148).[2] Attraction here is more kinetic, more molecular. Hircius' advice merely affirms the insect's ubiquity and, as Laurie Shannon observes of animals in general, "the frequency with which early moderns encountered [them] … in their daily routines" (7). The omnipresence of insects poses a problem for critics of early modern animal studies. If insects are ultimately unavoidable, then should we still attempt to avoid them? And

more importantly, what are the consequences of doing so? I ask because this desire to avoid "auoid vermine" seems to have taken hold of much scholarship in the field. Eric Brown observes in *Insect Poetics*, "The insect has become a kind of Other not only for human beings but for animals and animal studies as well, best left underfoot or in footnotes" (ix). Janice Neri would agree in her assessment that "critical studies by literary scholars and historians have generally focused on the insect as a metaphor for human relations, or for the relationship between the individual and society" (xiv).[3] Too often, bugs are not bugs, but mere symbols whose meanings are exteriorized from themselves.

This chapter attempts to counteract these critical patterns by emphasizing the vitality of insects and by deemphasizing their symbology. Through a reading of Shakespeare's *Titus Andronicus*, I argue that insects function as figures of killability, animal bodies made available for death that, in turn, expose the fragility of human life. Early modern insects materialized a strange paradox. On the one hand, they were therapeutic—medical treatises and household remedies insisted on the healing properties of their parts—and deadly, on the other, as bearers of the plague that shut down the London theaters more than once. The early modern stage was, in many ways, the primary site where anxieties surrounding such deadly reciprocity played out, not only as ground zero for the spread of plague, but also in the unprecedented appearance of insects in the period's drama. While human characters inspired by insects like Ben Jonson's Mosca (Italian for "fly") introduced an exciting element of danger, actual insects—arthropods, nematodes, and other moulting phyla—lay bare the tenuous bonds between species.[4] This precarity is not without consequence, for it is precisely within the theater of the insect that Titus processes his emotions. In the grim aftermath of Lavinia's rape, he explores

possibilities of cross-species grief when Marcus offhandedly exterminates a fly at the dinner table. The corpse of the mutilated creature summons the bereaved father to an affective ecology where humans and "bugges" express emotion across the species divide, even in the most dire of straits. In what follows, I draw on neurobiology, cognitive ecology, and evolutionary biology to argue that insects, because of their killability—the capacity to inflict and endure suffering, to kill and to be killed—shape the emotional architecture of *Titus Andronicus*. Shakespeare's fly reveals the deep literary and biological entanglements of the play's rich ecology.

It may surprise some to learn that my interest in insects on the early modern stage began on a very different kind of stage—that is, the stage of a microscope. Prior to my foray into sixteenth and seventeenth-century literature, I studied neurologic diseases in a genetics lab. My research involved a gene-silencing technology called RNA interference (RNAi) to identify genes implicated in Parkinson's Disease. At the center of this research (and directly in my microscopic field of vision) was the tiny nematode, *Caenorhabditis elegans*. This transparent worm was our lab's model organism, which, by definition, is a nonhuman species used to understand biological functioning in other species, namely humans in the case of Parkinson's. The fundamental logic of the model organism is that of biological similarity, however discrete, between humans and worms—the presumption that genetic, cellular, and molecular functions or dysfunctions in nematodic neurons might reveal something about the way human neurons behave. *C. elegans* is especially helpful in this regard in that it was the first multicellular organism to have its entire genome sequenced and possesses only 302 neurons in contrast to the billions of the human nervous system. RNAi as a method of gene "knockout" is where it gets tricky. In

order to figure out what genes do, sometimes it is easiest to turn them off and see what happens. In the lab, this often meant peering into a microscope and observing worms having "seizures" but which are probably better described as spasms as the result of mutation. The stage of the microscope became a theater of insect vulnerability, the dramatization of the knowledge-making practices of science in which humans, machines, animals, and neurons encounter disease.

The fact that the term "seizure" fails to adequately capture the chaotic sense of pseudocoelomatic twitch indicates the need for a more nuanced paradigm by which to understand this cross-species collaboration. How are we to read "seizure" in the entomologic encounter? What *exactly* do we induce in worms? And how do we translate feeling from a non-cerebral nervous system to the emotional complexity of the human brain? Non-medicalized meanings of "seizure" may help us address these questions. The first is "seizure" as "forcible taking," which dates back to the judicial records of the fifteenth-century Star Chamber, an English court of law at Westminster Palace charged with arbitrating civil disputes.[5] Shakespeare draws upon the term's legalistic definition in *As You Like It* when the Duke Frederick threatens to confiscate Oliver's holdings: "Thy lands, and all things that thou doest call thine / Worth Seizure, do we seize into our hands" (3.1.9-10). Seizure is committed against one's will by another in authority. Thinking animals and seizure together therefore prompts consideration of the "forcible" capture of animals, their welfare in captivity, and the ever troubling question of consent. Inequality inheres in the relationship. However, for Shakespeare, "seizure" could also signify collaboration, as in Philip's description of mutually clasped hands in the third act of *King John*: "And shall these hands, so lately purged of blood, / So newly joined in

love, so strong in both, / Unyoke this seizure and this kind regreet?" (3.1.239-41). There Mutuality, reciprocity, and agreement are expressed between men who willfully give themselves over to the other's grip. "Seizure," in the hands of Shakespeare's politicos, can either be equal or unequal. It was not until the nineteenth century that the term came to diagnose the sudden onset of illness and then, decades later, the very neurologic paroxysms for which *C. elgans* helps find a cure. I draw upon these competing meanings of "seizure" to register the complex interplay of "sharing" and "suffering" that occurs not only upon the stage of an electron microscope magnifying the pandemonian choreography of disease but also upon the London stage where the precarious interactions between humans and "bugges" bear witness to "shared suffering."

"Shared suffering" is not mine but Haraway's concept for a sort of practical orientation or sensibility attuned to species difference, power differentials, and the reality of nonhuman suffering. Focusing her analysis on animals in research, she thinks about how some lives are more easily slated for death than others. This killability speaks to the ways in which less familiar, less *similar* life forms are laid bare, exposed for the preponderance of humanity. Haraway puts it best in her assessment of the Oncomouse, a transgenic rodent used in cancer research, "S/he is our scapegoat; s/he bears our suffering; s/he signifies and enacts our mortality in a powerful, historically specific way that promises a culturally privileged kind of salvation—a 'cure for cancer'" (76). The lab rat suffering from cancer like the worm enduring seizures becomes a figure of sacrifice—akin to Abel's animal offering or the paschal lamb—that belies the bug's cooperation and resistance as a nonhuman collaborator in science. "Shared suffering" is also a matter of letters, for insects and humans share a "semiotic materiality, including the suffering

inherent in unequal and ontologically multiple instrumental relationships" (Haraway 72). Science then meets literature in the stories of *C. elegans*' predecessors living and dying under the lens of the early modern microscope.

It was not until the advent of the microscope that insects came into clearer focus for early modern naturalists. In fact, the earliest published microscopical image was that of an insect. Francesco Stelluti's 1630 engraving of a bee revealed, for the very first time, the compound eye. Neri elaborates, "The intricate structures of insects, as well as their size, made them ideal subjects for viewing through the microscope" (116). It's no wonder then that this visual technology was often referred to as "flea-glass." In *Technology and the Early Modern Self*, Adam Max Cohen highlights the radicality of such a new, "close-up" perspective, "Apparently mundane objects were found to have strange innate characteristics … that were surprisingly alien, surprisingly otherworldly" (142). It was only a matter of time before the microscope opened these alien bodies for the anatomy theater. An early modern culture of dissection sought to understand the inner workings of bodies, both human and nonhuman, by cutting into them and exposing their insides for the inquisitors of the academy. The microscope then provided another platform on which to view the insides of organisms too small for the doctor's slab.

In *Micrographia*, Robert Hooke narrates the dissection of a fly under the lens of a microscope. First he describes its exterior, "a very beautifull creature," and its wings as "very beautifull Objects" that "afford no less pleasing an Object to the mind to speculate upon, than to the eye to behold" (172). Dissecting the thorax, he continues, "Nor was the inside of this creature less beautifull than its outside, for cutting off a part of the belly, and then viewing it" (184). Hooke's assessment of the fly is striking not only for its

attention to insectile beauty, both inside and out, but also for its assertion that the fly's parts invite speculation and mindfulness. It seems that, through an appeal to vision—specifically, microscopical vision—the fly's body and its "peculiar ornaments and contrivances" summon the viewer to what Timothy Morton calls "the ecological thought." That is for Morton, "a practice and process of becoming fully aware of how human beings are connected with other beings—animal, vegetable, or mineral" (7). Connection, however, isn't always so benevolent. The ecological thought to which the insect summons its viewer also has a dark side—what Morton might qualify as "dark ecology"—in the violence behind the science.[6] Neri notes that Hooke's "specimens required a great deal of manipulation and preparation in order to make them visible through the microscope. […] [I]nsects were of course dismembered, pinned, and killed in the course of preparing and dissecting specimens" for viewing (120). The microscope allowed early moderns to see differently—on a larger scale and in more detail—but it is the bug's brittle body upon the stage that urges us to look differently, to recognize the vulnerability of entomologic bodies cut into pieces.

Implicit to the "ecological thought" is that thought occurs within an ecology, a set of relationships organisms make with their environment. The study of these systems is aptly called cognitive ecology. It's no coincidence that Evelyn Tribble and Nicholas Keene begin their study on cognitive ecologies in Reformation England with an insect. Following philosopher Andy Clark, the co-authors suggest that the peculiar reproductive behaviors of the mole cricket demonstrate a core principle of extended mind theory—that cognition is not "brainbound."[7] Instead, cognition involves a body "with particular perceptual and motor capacities" interacting, thinking, and feeling with and through its

environment (Thelen 4). Esther Thelen elaborates, "To say that cognition is embodied means that it arises from bodily interactions with the world … [forming] the matrix within which memory, emotion, language, and all other aspects of life are meshed" (xx). This "body" can be human or nonhuman. In Clark's example, it belongs to a particular species of cricket that amplifies its "mating song" by digging acoustic, subterranean burrows that guide sound waves across long distances to potential mates. "The mole cricket," Tribble and Keane write, "prompts consideration of where the organism ends and the environment begins" (1). The insect and the earth "form a single acoustic system" in which the brain, the body, and its surroundings are dynamically interactive. Cognition, for insects and as well as for humans, involves promiscuous neural gestures that occur both within and outside of the brain, crossing boundaries of nerves and skins, and incorporating the environment into excitatory systems. Thought extends into the world and crosses the human with the nonhuman, organic with the inorganic, and the simply mundane with the richly complex. It is not a solitary phenomenon but instead carries on in cooperation with "others." For the mole cricket, a song of seduction attunes the biological to the environmental; the animal shapes the earth and the earth, in turn, expresses its desires.

Tribble and Keene "recognize that not many books about early modern religion begin with thinking about mole crickets" (2). The mole cricket, in their critical context, is anomaly. Indeed, Tribble and Keene are not interested in the cricket *as such* but rather in what the cricket's behavior metaphorizes—the way something so small manages to stand in for a clever theoretical concept. Their interest in the insect extends insofar as it pertains to *human cognition* and the "cognitive burrows" that English Reformers created "to

establish new forms of memory and attention" (2). The mole cricket recedes in the background. What is lacking in their line of inquiry is a sustained engagement with nonhuman modes of cognition, alternative ways of knowing and shaping the world according to logics that, on the surface, may seem unfamiliar (or even *acognitive*). But what about the cognitive capacities of mole crickets? Or the muddy logics of burrows? "Cognitive burrows," considered materially, indicate just as much, if not more, about insect cognition as human cognition. What I propose is to expand the cognitive possibilities of these ecosystems through a consideration of the cognitive potentials of nonhumans comprising and contributing so much dynamism, context, and contingency. What if the mole cricket's cognition were our primary subject? What if we concerned ourselves with the ways insects interacted with their surroundings? How they manipulate things and bodies, including human ones, to satisfy their appetites? I am not suggesting that we occlude human cognition, but rather that we account for the harmony and cacophony of simultaneous thoughts, buzzes and chirps, urges and emotions, vibrating throughout these cognitive ecologies.

The field of cognitive ecology in neurobiology has become increasingly interested in questions of nonhuman cognition. Reuven Dukas laments cognitive science's "strong bias toward the examination of human cognition and behavior on the basis of proximate models of brain activity" and criticizes a general resistance to the idea of "cognitive resemblance" between less complex organisms and humans even when research has shown striking genetic similarity (5-6). He supports combining strategies from evolutionary biology and ecology to better understand "information processing and decision making" in animals (1-2). In doing so, Dukas aims to show that animal cognition

has been shaped by forces of natural selection. Whereas Tribble and Keene use cognitive ecology to understand "a complex human activity such as religion," cognitive ecology in neurobiology provides a conceptual apparatus with which to postulate thought and feeling in animals (12).[8] My approach is to combine strategies from both in an effort provide a historically situated account of entomologic feeling in early modern drama. Before I map nodes of cognitive and ecological intensity in *Titus Andronicus*, I will do my best to describe the scientific and cultural contexts surrounding the play's production.

Part Two: Of and From the Mud

Dekker and Massinger's "bugges" were among the first in the English language to signify a category of animal life comprised entirely of insects, but "bugges," even if they weren't explicitly referred to as such, had inhabited the plays and playhouses of London for many years prior to *The Virgin Marty's* debut in 1620. Shakespeare's dramatic corpus crawls with them, even if he never explicitly used the terminology. Brown tells us that "almost all his bugs are shorthand for 'bugbears,'" or what the *OED* defines as a "sort of hobgoblin" or "imaginary terror" (29). Insects in Shakespeare's plays go by other names: worm, grub, fly, flea, grasshopper, ant, wasp, bee. Shannon has convincingly argued that early modern animals inhabited a different textual order, not of generic category, but of lists, catalogues: brutes, beasts, fish, and fowl. She writes:

> By 'zoography,' I refer to the way early modern writing insists on animal reference and cross-species comparison, while at the same time it proceeds from a cosmological framework in which the sheer diversity of creaturely

> life is so finely articulated, whether as a 'great chain' of being or as an indication of nature's virtuosity. (9)

This zoographical plenitude, she argues, precedes modernity's obsessive separation of "the human" and "the animal." Prior to Descarte's *cogito*, the human was not so neatly delineated from its animal counterpart, *la bete-machine*. Shannon continues:

> In the seventeenth-century iteration of the human, *cogito ergo sum* inaugurated … a species definition. It culled humans, who alone were equipped with a rational soul, from the entire spectrum of creatures, and the rest were compressed within the mechanistic limits of purely instinctual behavior. […] To put it in the broadest terms: before the *cogito*, there was no such thing as "the animal." There were creatures. There were brutes, and there were beasts. (474)

I would add "bugges" as a latecomer. The appearance of insects on the early modern stage coincided with an epistemological shift toward the natural sciences and what Brian Ogilvie calls "the science of describing." Prior to the sixteenth century, however, insects were marginal. Little attention was paid to those inhabiting the lower stratum of the Great Chain of Being, but they were also marginal in a more literal sense: that is, restricted to the margins of illuminated manuscripts. An early sixteenth-century edition of the *Book of Hours* shows snails, caterpillars, and butterflies accompanying flowers, leaves, and birds around the devotions. This marginalization ended with Albrecht Durer's 1505 painting of a stag beetle. No longer was the figure of the insect pushed aside. It was front and center, against a blank background that emphasized the intricacies of its anatomy, from its notched antennae to its hairy legs to its ebony sheen. Neri terms this strategy of artistic

and scientific visualization "specimen logic." Until the late sixteenth century, knowledge of insects was limited to biblical and classical sources, but then "Europeans began to turn their attention to insects and their life cycles as a new subject of study … [T]he strange, alien forms of insects and their unusual habits fascinated naturalists, collectors, artists" (Neri xi). Revulsion turned to intrigue, Ogilvie suggests, as "naturalists abandoned the notion that insects were produced through equivocal or spontaneous generation from decaying organic matter, an irregular process, replacing it with a concept of insects as subject to an orderly form of reproduction" (222). With the dawn of the New Science, insects became systematically knowable.

Moffet's *Insectorum sive minimorum animalium theatrum,* licensed in 1590 but published posthumously in 1632, along with Ulisse Aldrovandi's 1602 *De animalibus insectus*, inaugurated this scientific shift for insects. Both texts discover their roots in medicine. Moffet, on the one hand, was an adherent of the Paracelsian school, advocating for the efficacy of chemical medicine in his 1584 *De jure et praestantia chemicorum medicamentorum*. Aldrovandi, on the other, was a student of *materia medica*. Rediscovering the writings of Dioscorides, he studied the healing properties of minerals, plants, and animals (including insects) as "part of the broader humanist effort to recover and study ancient [medical] texts" (Neri 29). Despite their divergent medical leanings, both men turned to insects as a source of fascination. In the preface to *Theatrum Insectorum*, Moffet writes:

> [Y]et where is nature more to be seen than in the smallest matters, where she is entirely all? For in great bodies the workmanship is easie, the matter being ductile; but in these that are so small and despicable, and almost

> nothing, what care? How great is the effect of it? How unspeakable is the perfection? (preface)

Moffet experiences an emotional response—one of wonder and reverence—that exalts the insect from its lowly status. Mary Baine Campbell has argued in *Wonder and Science: Imagining Worlds in Early Modern Europe* that the cognitive and emotional density of wonder vehiculates ways of knowing and encountering the world and its inhabitants without requiring mastery, conquest, or absolute certainty. Moffet's preface demonstrates not only this sense of jejune wonder but also a humble respect for the "smallest matters" that verge on "almost nothing." Perfection inheres in the creature such that its impact is ineffable. The question of scale is critical, but so too is the inarticulacy surrounding the earth's smallest articulated bodies, for how frequently are insects encountered by inarticulate squeals, grunts, screams, and even speechlessness?

To better understand early modern insects is to appreciate their conceptual allure as well as their uncanny ability to provoke a wide range of emotional responses. Perhaps it is their diminutive size that flickers in and out of sight, too small and too quick to process in totality, or maybe it's the diverse shapes, hues, and textures of their segmented bodies pinned in curiosity cabinets or illustrated in bestiaries. Whichever the case, emotions run high in the entomologic encounter. Evolutionary biologist E.O. Wilson might even argue that Moffett's experience of ineffable wonder is, in part, biologically determined. As Wilson observes of ophidians, "The mind is primed to react emotionally … not just to fear them but to be aroused and absorbed in their details, to weave stories about them" (9). He entertains a heredity basis for our "mixture of apprehension and morbid fascination," arguing that "hundreds of thousands of years" is "time enough for

the appropriate genetic changes to occur in the brain" to respond to organisms that "have been a significant source of injury and death" to humans (23). What Wilson does not account for is violence committed against insects; that is, to be precise, emotional responses by humans that cause "injury and death" for insects. Take, for example, young Martius' torture of a butterfly in *Coriolanus*. Valeria describes the brutal scene:

> O' my word, the father's son: I'll swear, tis a
> very pretty boy. O' my troth, I looked upon him o'
> Wednesday half an hour together: has such a
> confirmed countenance. I saw him run after a gilded
> butterfly and when he caught it, he let it go
> again; and after it again; catched it again; or whether his
> fall enraged him, or how 'twas he did so set his
> teeth and tear it; O, I warrant it, how he mammocked
> it! (1.3.57-65)

Brown reads the boy's entomophagy as a "transgressive act" that further enforces the divide between rich and poor in Shakespeare's Rome: "While peasants starve for grain, young Martius eats the refined and the beautiful" (43). While I don't disagree with Brown's observation, I read this scene as more emotionally primal. The boy is not interested in Roman politics as much as he is with the butterfly's capture and consumption. While Volumnia justifies the boy's peculiar behavior with patrilineal inheritance—"One on's father's moods" (1.3.66)—his violence also stems from a different strain of genetic inheritance, an epochal, evolutionary narrative in which insects insinuated themselves in the minds of humans.

In *The Infested Mind*, Jeffrey Lockwood describes the cognitive and physiological effects of fear in the entomologic encounter. When a human visually perceives the figure of an insect, the thalamus passes on "a crude representation of a leggy blob to the amygdala," which then instructs the body "to tense and to release epinephrine, insulin, and cortisol—a cocktail of hormones which increases your pulse, blood pressure and respiration" (4). The sympathetic "fight" response instructs humans to brutalize insects, while the "flight" response urges escape. Lockwood describes a third option: "freezing, which can manifest as fainting. This requires a different neurobiological response—a sudden drop, rather than, rise in blood pressure." These responses are "the legacy of our ancestors," who learned the hard way that insects transmit diseases, feed on blood, and spread allergens (22). Over centuries of trial and error, the most successful fearful responses—those that favored survival—took hold of the human species.

Lockwood discusses a second emotion, disgust, as a response to insects. Disgust is an associative emotion that is shaped by the senses, especially taste and olfaction. The word itself imbeds the sense of taste with *des* signifying opposition and *gustus* signifying taste which, as studies suggest, may have a neurological basis: "[D]isgust is associated primarily with the anterior insula rather than the amygdala, which is activated during fear. Interestingly, parts of the insula are within the gustatory cortex, where neurons associated with taste reside—so perhaps etymology reflects anatomy" (55). Insects evoke disgust not only because of their foul materiality—several species regurgitate or defecate as defense mechanisms—but also because of the generally smelly places where they assemble.

The connection between insects and filth in the early modern period was expressed through the theory of spontaneous generation. Popular belief, sustained by classical sources, held that insects spawned from decomposing matter, such as feces or rotten flesh. In the *Sylva sylvarum,* Francis Bacon observes spontaneous generation's metamorphic processes: "We see that in living creatures that come of putrefaction, there is much transmutation of one into another; as caterpillars turn into flies, etc. And it should seem probable that whatsoever creature, having life, is generated without seed, that creature will change out of one species into another" (400). For Ian MacInnes, this phenomenon is supremely literary. In "The Politic Worm: Invertebrate Life in the Early-Modern English Body," he demonstrates "the importance of corruption and putrefaction as organizing principles in zoological discourse" that sustains a "cultural uncertainty about the relationship between health and disease, both in the individual body and the body of the commonwealth," seen most vividly in the eroding political situation of *Hamlet's* Denmark (5, 18). Spontaneously generated invertebrates occupied an anxiously paradoxical position on the cusp of life and death—born of the dead yet engendering decay—and thereby providing the putrid matter with which to stage corruption.

However, late into the sixteenth and well into the seventeenth centuries, naturalists grew suspicious of the classical theory of spontaneous generation. In a recent essay, Ogilvie documents this turn in the history of natural science by charting the evolution from synchronic to diachronic modes of representing insect morphology. It was not until the seventeenth century, he contends, that naturalists "problematized the successive transformations of insects from egg to imago" (223). For example, Moffet, following Aldrovandi, troubled the theory of spontaneous generation by observing that

caterpillars metamorphose into butterflies that, in turn, deposit eggs yielding even more caterpillars (Ogilvie, 227-8). Then other naturalists, including the Dutch microscopist Jan Swammerdam, followed suit, and by the end of the seventeenth century, the theory of spontaneous generation held less sway.

The insect's paradoxical materialization of life and death, however, remained intact, especially in the historical fact that insects were used—distilled, ingested, and absorbed—as medicine, often for injuries or irritations that were caused by insects in the first place. Moffet's *Theatrum Insectorum*, Neri argues, "resembles the books of medical recipes" that were popular in early modern Europe (61). In many ways, his entomologic bestiary was a hodgepodge, a "cut and paste" archive compiling the work of Thomas Penny, who had been observing and drawing insects since the 1560s, and Conrad Gessner, whose 1569 *Euonymus* (published in English in 1576 as *The newe jewell of health*) advocates for the medicinal properties of insects. Gessner's pharmacopeia, for example, prescribes "Oyle of Antes egges" to "prouoketh speedily vryne" as well as a mixture made of scorpions to "auayleth against venome" of other poisonous creatures (174, 145). Gessner's Paracelsian medicine, "borrowed out of a writtene booke," suggests that "one poison (of propertie) driueth out another." Put another way, a particular insect may remedy the sting of another. *Similia similibus curantur*. Like cures like. Even the legendary "Book of Cleopatra" was said to employ insects for medicinal purposes. For instance, Moffet prescribes Cleopatra's insect-based treatment for male baldness:

> For Galen out of Saranus, Ascle/piades, Cleopatra, and others, hath taken many Medicines against the disease called Alopecia or the Foxes evill; and he useth them either by themselves or mingled with other things. For

> so it is written in Cleopatra's Book de Ornatu. Take fives grains of the heads of Flies, beat and rub them on the head affected with this disease, and it will certainly cure it. (71)

Authorized by Galen, Cleopatra was regarded as somewhat of a cosmetic, gynecological, and alchemical expert in early modern England. Even if Shakespeare's Cleopatra is not identical to the Cleopatra of medical antiquity, she is, as Tanya Pollard shows, "simultaneously patient and pharmacist, consumer and producer of the drugs she craves," citing, for instance, her desire for mandragora in Shakespeare's opening sequence (72). When all hope is lost at the play's tragic end, she requests an anesthetic worm to ease her suffering: "Hast thou the pretty worm of Nilus there, / That kills and pains not?" (5.2.244-45). The worm is, of course, not a nematode but a poisonous asp, a "mortal wretch" and "[p]oor venomous fool," that will with its "sharp teeth this knot instrinsicate / Of life at once untie" (5.2.304-306). Worms and snakes suggest different categories of animal life to our modern sensibilities—invertebrate versus vertebrate, nematodic versus reptilian—but early moderns, who believed in spontaneous generation, assumed a shared origin. Like insects, serpents in *Antony and Cleopatra* emerge from "the slime and ooze" of the Nilus. Lepidus informs Antony, "Your serpent of Egypt is bred now of your mud by the operation of your sun" (2.7.21, 26-70). The suns warmth breeds earthly creatures that Cleopatra nurses in death: "Dost thou not see my baby at my breast, / That sucks the nurse asleep?" (5.2.309-310). Shakespeare's "odd worm" is simultaneously infant, medicine, and poison (5.2.258).

PART THREE: AT THE TABLE

Insects occupied a distinctly theatrical space in early modern England. Moffet''s *Theatrum insectorum,* or "insect theater," attests to their performativity. The insect's relationship to the theater, Brown argues, "is partly embedded in the etymology: the Greek 'en-toma' whence 'insect' was applied by Aristotle to capture the most important identifying characteristic of these creatures: segmentation," (29) which was later reiterated in Philemon Holland's 1601 English translation of Pliny's *Natural History*, "And well may they all be called *Insecta*: by reason of those cuts and divisions" (310). Brown points out that "entoma"" in classical literature, signified "the hewn fragments involved in ritual sacrifice. The transferal of this religious enterprise into a theatrical one can be read in the *sparagmos* of classical drama—or the sort of sacred cutting that the sons of Shakespeare's Titus Andronicus makes of the captive Alarbus when his 'limbs are lopped' (1.1.143)." Lucius initiates the sacrificial scene by calling for "the proudest prisoner of the Goths / That we may hew his limbs, and on a pile / *Ad manes fratrum* sacrifice his flesh" (1.1. 96-98). Shakespeare's scene of *sparagmos* emphasizes the vulnerability of the human body, its capacity to be dislocated and violently divided into segments.

When Aristotle speaks of *entoma*, he too has vulnerability in mind. This vulnerability, however, belongs not to humans but to insects: "The body of an insect is made of segments … to enable it to bend in such a manner as may protect it from injury" (343). In the *Historia Animalium*, *entoma* refers to the ways in which the segmented, chitinous matter of an insect's body preserves its survival. He continues, "Those that do not roll up increase their hardness by closing up the insections" (343-345). Insections are

bodily sites of simultaneous vulnerability and resistance, apertures that open and close in response to the environment. Perhaps most remarkable about Aristotle's entomology is his comparison of insects to plants. “Plants can live when they are cut up; so can insects,” he says, and even if these detached segments persist for only a limited time, they display a degree of liveliness and autonomy that betrays bodily unity (345). The entomologic body is a “body in parts” with each part displaying its own agency.[9] The *Oxford English Dictionary* links the word “insect” to the Latin *insecare* (“to cut into”), which, in the case of *sparagmos*, recalls the Latin root of “vulnerability,” *vulnerare* (or, “to wound”). If Alarbus is a figure of entomologic life then so too are the play's other characters who suffer dismemberment: Lavinia, who is bereft of her limbs and tongue at the hands of her rapists, and Titus too, who willingly amputates his own hand to join his daughter's suffering. Shakespeare's insected bodies dramatize human suffering, but it is his black fly that draws our attention to the possibility of animal suffering.

The infamous fly-scene begins with the dismembered Andronici seated at a banquet table, an integral set piece to the tragedy’s plot, not only here but also in the play’s cannibalistic finale. A table is a symposial site of consumption and conversation where, as J. Allan Mitchell observes of medieval tables, “kinship bonds are forged and maintained” (124). *Titus Andronicus* tests this truism for, at the Andronican table, bonds of kinship are in jeopardy. Martius and Quintus, previously executed, leave behind empty chairs, and Lavinia, whose vocal talents for song and repartee have been lingually amputated, struggles to communicate through bodily gesture.[10] Titus laments to Marcus, “Thy niece and I, poor creatures, want our hands, / and cannot passionate our tenfold grief / With folded arms” (3.2.5-7). For as much as language fails to convey the extent of

their familial trauma, Lavinia's speechlessness is offset by her father's verbosity. He describes his tongueless daughter as a "map of woe, that thus dost talk in signs," (3.2.12) signs he believes he can interpret, "Hark, Marcus, what she says—/ I can interpret all her martyred signs" (3.2.35-36). He even promises to "learn [her] thought" by "wrest[ing] an alphabet" from her sighs, her raised stumps, her winks and nods (3.2.39-45). His desire to know Lavinia means learning her speechless language, both the subtle and overt motions and exhalations of her butchered body. As Titus consoles his grief-stricken grandson, "Peace, tender sapling! Thou art made of tears, / And tears will quickly melt thy life away," (3.2.50-1) he is suddenly interrupted by a stage direction: "*Marcus strikes the dish with a knife*." The noise turns Titus's attention to the cause:

> TITUS: What does thou strike at, Marcus, with thy knife?
>
> MARCUS: At that that I have killed, my lord—a fly. (3.2.52-3)

Marcus has committed the ultimate social *faux pas*: murdering the dinner guest.

The Andronican encounter with the fly actualizes not only killability—the determination of whose lives are more or less expendable—but also the dilemma of hospitality described by Serres in *The Parasite*; the slippage between host and guest is slight, but the parasite is the clearly excluded third. At first glance, the parasitic arrangement of the Andronican table is clear. Titus is the host; his family, the guests; the fly, the parasite, who has come in search of a meal and maybe even an open wound where to deposit its larvae. These roles are important, for as Serres warns, "It might be dangerous not to decide who is the host and who is the guest, who gives and who receives, who is the parasite and who is the *table d'hote*, who has the gift and who has the loss, and where the hostility begins with hospitality" (15-6). Titus, however, muddies

these categories. If the parasite is characterized by "interruption, a corruption, a rupture of information," (3) as Serres argues, then who's to blame for interrupting the meal? The intruder or the assassin? The black fly who, "with his pretty buzzing melody, / Came here to make us merry," or the man that "hast killed him" (3.2.64-5)? Titus sides with the black fly, excoriating Marcus for insecticide:

> Out on thee, murderer. Thou kill'st my heart;
> Mine eyes are cloyed with view of tyranny;
> A deed of death done on the innocent
> Becomes not Titus' brother. Get thee gone;
> I see thou art not for my company. (3.2.52-8)

Marcus and the fly momentarily swap roles—guest to parasite, parasite to guest—as Titus disinvites his brother from the table to sympathize with the "poor harmless" insect (3.2.63).

The animal becomes a figure of innocence, a concept which discovers its roots in Christian theological discourse. In her reading of John Calvin's *Commentaries on the Epistle of Paul to the Romans*, Shannon turns animal innocence toward the doctrine of sin:

> [N]otions of "animal innocence" derive not just from some rising sense of wild freedom from culture or law that develops with industrialization or from their infantilization. … Instead, "animal innocence"" derives from its legal and biblical sense at this pivotal moment in biblical mythography. As Calvin points out here (and as Donne later echoes), when it comes to sin,

> animals must be found *not guilty*—yet they still bear the burden of its penalties. (57)

The lack of a soul, that which differentiates animals from humans, means that animals are incapable of sinning. Damnation is an exclusively human plight in the aftermath of Eden. The black fly is "harmless" by design. With that said, insectile innocence in *Titus Andronicus* seems to resonate in another register, a more familial one. In a moment of cross-species identification, Titus witnesses his family's tragedy in the theater of the animal. He imagines the insect to live within models of kinship: "How if that fly had a father, brother?" (3.2.60). The fly is pitiable to Titus because it might have a family, kindred creatures who would mourn its death just as he grieves the mutilation of his daughter and the murders of his sons. He then visualizes how the fly's parent would "hang his slender gilded wings / And buzz lamenting doings in the air," a veritable performance of arthropodic grief. Just as he vows to "wrest an alphabet" from Lavinia's speechless motions so to does he interpret the hypothetical hums and gesticulations of flies.

The word *parasite* in French, in addition to denoting side-by-side consumption, also signifies noise. The parasite, Serres contends, generates noise and therefore "produces disorder" by interfering with communication (3, 52). The clatter of dishes at the Andronican table constitutes such noise. So too does the fly's buzzing. But might an interruptive "buzz" also double as music or entertainment? Indeed, "the exchange of singing and food is evoked", in Serres' words, as the fly's buzzing turns to "melody" at the banquet table (91). The association of insects with music isn't lost on Shakespeare,

for again we hear the rhythmic flutter of gossamer wings in the apostrophe to sleep in *Henry IV, Part II*:

> Why rather, sleep, liest though in smoky cribs,
> Upon uneasy pallets stretching thee,
> And hush'd with buzzing night-flies to thy slumber,
> Than in the perfum'd chambers of the great,
> Under the canopies of costly state,
> And lull'd with sound of sweetest melody? (3.1.6-11)

The fly's buzz, whether pestering Marcus to violence or lulling the kingdom's peasants to sleep, engenders a deeply affective, acoustic experience, which, at least for Titus, reconfigures his relationship to the entomologic nonhuman. David Rothenberg, who has written extensively on "bug music," insists that "the rhythms of insects bind us to the landscape, [for] they have been around for millions of years longer than anything human" (2). Titus proves Rothenberg's point, as the fly's "lamenting doings" and "pretty buzzing melody" urge the Andronican patriarch to express emotion across the species border. When noise turns to song, Titus and the fly find themselves "on the edges of messages, at the birth of noises" (Serres 67).

Marcus, however, seeks to maintain the conventional separations between host, guest, and parasite. His decision to kill the fly—"[t]o decide is to cut," Serres reminds us—is to eliminate noise and to exclude the interruptive parasite (23). From a biological perspective, insecticide in the fly-scene is justifiable and arguably even necessary for survival. Flies were (and still are, of course) notorious vectors of disease, transferring opportunistic microorganisms from one body to another. Evolutionary biologists might

insist that Marcus's impulsive death strike is genetically determined, as automatic and involuntary as a reflex, as he recognizes the fly as a potential hazard to his and his family's health. Flies at the banquet table were common during the early modern period, especially if the weather was warm when, as Mary Dobson observes in *Contours of Death and Disease in Early Modern England*, "food is most easily contaminated, organisms are readily trapped in rivers and streams at low discharge, bacteria multiply more rapidly and flies' eggs are hatched at an increased rate" (463).The Andronican table offers the fly its choice: food, blood, flesh.

While Marcus's killing of the fly might be read as biologically altruistic, he fails to justify it as such. He responds to Titus's tongue-lashing with a terse rebuttal: "Alas, my lord, I have but killed a fly" (3.2.59). His "but" diminishes the fly's claim to life, a rhetorical gesture meant to reinforce the killability of insects and the superiority of humans. Marcus maintains the "order" of the table, a piece of household furniture that, by its very geometry, insinuates the invidious distinctions of host, guest and parasite, human and animal, by organizing bodies in hierarchized space. The table bends and conforms bodies to its shape with what Mitchell might describe as a willful "tenacity" (118). "The table is indeed a complex *mess*" of organic and inorganic matter, a diverse assemblage where species meet and where the dead join the living (123). Mitchell encourages us to consider "the whole zoogastronomy of the table," from the dead animal matter served on platters to the hunting animals, who trekked their prey in the forest, to the rodents and insects hankering for their crumbs. Although the table is meeting place for unlike others, it is also "a physical scaffold … [that] aids in the separation of species, stratifying an immanent field" (156). With the strike of his knife upon a dish, Marcus affirms the

conventional logic that "the animal body is always supposed to remain subordinate, carved up and served to human guests" (153).

This commonplace is, of course, flipped when the Andronici prepare Chiron and Demetrius as the main course for their mother, Tamora, and her husband, the Emperor Saturninus. Titus instructs his daughter:

> Lavinia, come,
> Receive the blood, and when that they are dead,
> Let me grind their bones to powder small,
> And with this hateful liquor temper it,
> And in that paste let their vile heads be baked. (5.2.195-200)

Shakespeare serves edible humanity in the same way that edible animals are morcellated, singed, seasoned, and ultimately laid bare for consumption. Ignorant to the contents of the freshly baked pies, Saturninus commands Titus to free Tamora's sons, "Go fetch them hither to us presently," (5.3.58) to which Titus snidely replies:

> Why there they are, both baked in this pie,
> Whereof their mother daintily hath fed,
> Eating the flesh that she herself had bred.
> 'Tis true, 'tis true. (5.3.59-63)

Shakespeare's dinner party suffers a fate worse than Haraway's aforementioned "indigestion," what she describes as an "acidic [reminder] of mortality made vivid in the experience of pain and systemic breakdown, from the lowliest among us to the most eminent" (31). Hospitality turns to hostility as Titus skewers Tamora with a knife. Saturninus returns the gesture, and then Lucius reciprocates, "Can the son's eye behold

his father bleed? / There's meed for meed, death for deadly deed" (5.3.64-5). Mitchell puts it best his assessment of animals and medieval tables, "The cutting that takes place at the mess table stands at the inauguration of the consciousness of shared human and animal frailty, and, in the end, mortality" (156).

Shakespeare is well aware that decomposing bodies, even those of Rome's deceased nobility, will provide nourishment for worms, vermin, and other environmental scavengers in a richly organic afterlife. Lucius sees to it in the play's finale. Following the bloodbath at the Andronican table, he confronts the ravaged corpses of Saturninus, Titus, Lavinia, and Tamora. Their lifeless bodies, crumpled upon the stage, issue a political demand for proper burial. Lucius grants Saturninus "burial in his father's grave" (5.3.191) and then orders Titus and Lavinia to "[b]e closed in [their] household's monument" (5.3.192-93). Tamora, however, is denied decent inhumation:

> As for that ravenous tiger, Tamora,
> No funeral rite, nor man in mourning weed,
> No mournful bell shall ring her burial,
> But throw her forth to beasts and birds to prey:
> Her life was beastly and devoid of pity,
> And being dead, let birds on her take pity. (5.3.195-99)

Titus Andronicus ends with these lines—Lucius' curse on Tamora's body. Because she was "beastly" as a "ravenous tiger" during her life, she must take her place among the animals in death. What characterizes Tamora as beastly, according to Lucius, is elided with a lack of pity. The way in which the word "pity" not only ends each line of the play's final couplet but also rhymes with itself marks "pity"—or the lack thereof—as

central to the figure of the beast. The invocation of the animal installs the human—in this case, Tamora—in a state of moral impoverishment, undeserving of human sympathy. The animal trope, however, takes an unexpected turn when Lucius suggests that birds of prey may pity her carcass. On the surface, his curse seems congruent, at least in tone, with the rest of his anathema. Animals are assumed to lack emotion; the pitiless Tamora will be thrown to the birds precisely because they will *not* pity her. But what if we take Lucius' command literally? Is it conceivable that scavenging birds might actually pity her? When she no longer merits the pity of her fellow humans, will the animals offer her corpse reprieve?[11]

Part Four: Putting Out Feelers

Cross-species pity may have been on the Bard's brain after encountering a possible source for *Titus Andronicus*. The story of "Andronico y el leon" (or in English, "Andronicus and the lion") from Antonio de Guevara's Spanish Golden Age text *Epistolas Familiares* would have been available to Shakespeare in Edward Hellowe's 1584 English translation. The narrative follows the Roman Emperor Titus as he celebrates his victories in the German Wars by sending criminals to the fighting pits and into combat with animals—lions, bears, wolves, bulls, camels, and elephants—imported from the Caucasus Mountains and from the deserts of Egypt. One criminal in particular, a fugitive slave named Andronicus, is thrown to a particularly vicious lion, described as "moste terrible to beholde, whose feete and mouth was all bloudie." However, the lion, to the surprise of Titus and the spectators, does not attack Anronicus. Instead, the beast lies down and embraces the beleaguered slave, sparing his life in an unprecedented display of

cross-species affection. Baffled, Titus orders Andronicus to appear before him and to explain what "the eyes of man had never seen, neither in old books had ever been read." Andronicus replies that he had encountered the lion many years ago in Africa, and had helped him by removing a thorn from his paw. Andronicus pitied the lion then, and the lion pities Andronicus now. It comes as no surprise then that, earlier in *Titus Andronicus*, a compassionate lion joins a menagerie of sympathetic avifauna in Lavinia's plea to Tamora. Trapped in the forest, she entreats the Queen of the Goths to spare her chastity:

> 'Tis true the raven doth not hatch a lark:
> Yet have I heard—O, could I find it now!—
> The lion, moved with pity, did endure
> To have his princely paws pared all away.
> Some say that ravens foster forlorn children
> The whilst their own birds famish in their nests:
> O, be to me, though thy hard heart say no,
> Nothing so kind, but something pitiful. (2.3.149-156)

Lavinia attempts to appeal to Tamora's feminine sensibilities—to "show a woman's pity" (2.3.147)—arguing for an allegiance not to kin but to "kind." Although a "raven" cannot "hatch a lark," the females of the species are nonetheless capable of nurturing offspring of different species, sometimes even to the detriment of their own. In a wild world of beasts and brutes, Lavinia believes that cross-species sympathy is possible. Her zoographic petition, however, confounds more than it convinces Tamora, "I know not what it means; away with her!" (2.3.157). When the Queen of the Goths shows "no grace,

no womanhood" by refusing to act the part of a raven or lion, Lavinia determines, ironically, that her captor is not a woman but a "beastly creature" (2.3.182).

Animal emotion in *Titus Andronicus* is all too frequently regarded as pathetic fallacy, the attribution of exclusively human feelings to nonhumans. The fly-scene especially is routinely construed as extreme anthropomorphism tending toward lunacy, as the grieving Andronican patriarch "hovers perilously near the brink of true insanity" (Deroux 99). Marcus's remark at the scene's end seems to indicate as much: "Alas, poor man! Grief has so wrought on him, / He takes false shadows for true substances" (3.2.78-9). Is it unreasonable or, indeed, insane for Titus to imagine that insects might have feelings of their own? Robert Watson admits that Titus's "helpless misery … enables a piteous identification with other forms of life, and a recognition that murder, tyranny, and innocence are terms applicable outside of the realm of the human," but in the end, "insect grief is a false shadow" cast by anthropomorphism. The anthropomorphizing of the fly, Charlotte Scott argues, "moves from empathy to malice, from Lavinia to Aaron, retaining a human imperative in an animal world" (261). In her view, the natural world, as it is represented in the play, behaves in accordance not to its own imperatives but to man's. She further suggests that anthropomorphism turns to anthropocentrism, "The view of tyranny that [Titus] faces in the loss of his own hand and his daughter's mutilation is replayed in the petty destruction of a life. Titus's empathy with the natural world and his anthropomorphic application of human values to the fly seek to amplify rather than compromise his own humanity" (261). Drawing on Bruce Boehrer's distinction between "absolute" and "relative" anthropocentrism, Scott elaborates:

> Whilst humankind may remain different from the animal world in anthropocentric terms—at its lowest it may become nearer to the animal as an 'impaired group' (women, idiots, ethnic and racial minorities), and at its highest it may represent the right social order (based on superiority and subordination)—anthropomorphism challenges the human to deny animal nature and resist a potential degeneracy. (258)[12]

As a strategy for generating resemblances across species, anthropomorphism encourages humans to reevaluate not only the ideologies that cull humanity from animality but also the divisive social hierarchies endemic to humanity itself. It runs the risk, however, o uncritically collapsing difference, especially species difference. Anthropomorphism imposes an inherently anthropocentric logic on distinctly nonhuman, ecological bodies, systems, and events that might be approached in alternate ways from disciplines, especially in the sciences, that are more acutely attuned to insects as biological organisms and not as metaphors.

What if Shakespeare's fly is, in fact, capable of experiencing emotion? Do animals, even those as "simple" as insects, inhabit deeply felt, emotional lives? One of the earliest forays into insect psychology was Eugene Louis Bouvier's 1919 *Vie psychique des insectes* (or *The Psychic Life of Insects*), which declared the death of anthropocentrism in entomology:

> It is the fact that these wonderful analogies are well calculated to emphasize the contrast between the world of the articulates and our own. We have a feeling that the psychic evolution of these animals is not less original than their structure, and that they are never so widely separated

> from us as when they appear to resemble us the most. The old anthropocentric school is, indeed, dead: we no longer attempt to explain insects by man; we rather try to grasp the mechanism that allows these animals to evolve mentally and to acquire activities which seem human. (xiv - xv)

Resemblance is marked by radical difference. For Bouvier, insects merely "seem" human, and it is his goal to understand this relation of seeming in terms of the insect, exclusive of humanity.[13] Present-day studies in neurobiology and entomology are attempting the same. A recent issue of the journal *Current Biology* asks: "Emotion in Invertebrates?" Michael Mendl, Elizabeth Paul, and Lars Chittka recognize that such a question breeds even more: "Do non-human animals have emotions? If so, how can we measure them? And why should we be interested?" (463). A group of scientists at the Institute of Neuroscience at Newcastle University suspect honeybees might possess the answer. In their experiment, Melissa Bateson and her team attempted to induce a "negative affective state" in honeybees by simulating "a predatory attack" (1070). In other words, they shook the bees' habitat because "physical agitation is likely to be a good predictor of imminent attack" and "because brood predators such as the honey badger (*Mellivora capensis*) have been observed to use their accomplished diggings skills to break into beehives" (1070). The experimenters then observed that "distressed" honeybees not only exhibit lower levels of dopamine and serotonin, neurotransmitters also involved in human cognition, but they display "a pessimistic cognitive bias" in decision making. This negative bias, they argue, is further seen in the way in which agitated honeybees withhold their feelers—that is, their proboscis extensions—from odor

stimuli. These molecular and behavioral responses, they suggest, have "more in common with vertebrates than previously thought" and might indeed qualify as emotion, if not at least *emotional*:

> Using the best criteria currently agreed on for assessing animal emotions, i.e. a suite of changes in physiology, behavior, and especially cognitive biases, we have shown that honeybees display a negative emotional state. Although our results do not allow us to make any claims about the presence of negative subjective feelings in honeybees, they call into question how we identify emotions in any nonhuman animal. (Bateson et. al.; 1070, 1072).[14]

Vertebral similitude is a point of contention in debates on invertebrate pain, especially considering the widespread use of invertebrate species in biomedical research. In neurobiology, pain is generally defined in two ways. The first is nociception, the nervous system's ability to recognize harmful stimuli and to evoke a reflexive response that moves the organism (or affected part of the organism) away from the source. The second is the emotional aspect of pain, often regarded as the internalized or privatized experience of suffering. Jane Smith confirms that "[m]ost, if not all, invertebrates have the capacity to detect and respond to noxious or aversive stimuli" (26). That is, like vertebrates, invertebrates experience nociception. Many invertebrate species, including insects, possess specialized sensory neurons called nociceptors that respond to dangerous stimuli. Whether or not insects suffer, in the emotional sense, remains undetermined. To those who might deny insectile suffering, Smith retorts that "such a view simply reflects a

paucity of (human) imagination," and she warns against the dangers of uncritical anthropomorphism

> which could lead to incorrect conclusions about the experiences of invertebrates. Thus, it might be inferred, incorrectly, that certain invertebrates experience pain simply because they bear a (superficial) resemblance to vertebrates—the animals with which humans can identify with most clearly. Equally, pain might incorrectly be denied in certain invertebrates simply because they are so different from us and because we cannot imagine pain experienced in anything other than the vertebrate or, specifically, human sense. (Smith 25, 29)

Humanity's species-limited experience with emotion might therefore restrict the capacity with which to imagine suffering in less familiar, less similar life forms. Simply because we do not recognize suffering in another does not diminish its affective intensity or how authentically it is felt. From the periaqueductal gray of the human brain to the sudden twitch of a motor neuron, from the mammalian spinal cord to the electric rush across a membrane, where do we locate suffering? And more importantly, who are we to deny the insect's suffering?

The very possibility of insect emotion allows Shakespeare's fly scene to be something other than exclusively anthropomorphic. Shakespeare portrays a moment of cross-species attunement as a consequence of trauma and the subsequent vertigo of the other's cognition. Although Titus invents the narrative of the fly's grief-stricken father, that is not to say that grief only belongs to Titus or to those gifted with speech. To be "articulate," according to the *Oxford English Dictionary*, is to be "capable of conveying

meaning," its primary definition, but "articulate" also identifies a phylum of brachiopods characterized by their hinged, valved, and jointed anatomies. In *Titus Andronicus,* articulate bodies are violently disarticulated, but their capacity to "mean" and especially their capacity to "feel" remains undiminished.

Works Cited

Aristotle, *Parts of Animals*. Trans. A.L. Peck. Cambridge: Harvard University Press, 1945.

Bacon, Francis. *Sylva Sylvarum: Or a Natural History in Ten Centuries*. London, 1627.

Bateson, Melissa et. al. "Agitated Honeybees Exhibit Pessimistic Cognitive Biases." *Current Biology* 21 (2011): 1070-1073.

Bouvier, Eugene Louis. *The Psychic Life of Insects*. Trans. L. O. Howard. New York: The Century Co., 1922.

Brown, Eric. "Reading the Insect." *Insect Poetics*. Minneapolis: University of Minnesota Press, 2006. ix-xxiii.

—. "Performing Insects in Shakespeare's *Coriolanus*" in *Insect Poetics*

Cohen, Adam Max. *Technology and the Early Modern Self*. New York: Palgrave Macmillan, 2009.

de Guevara, Antonio. *The Familiar Epistles of Sir Anthoy of Gueuara*. Trans. Edward Hellowes. London: 1574.

Dekker, Thomas and Philip Massinger. *The Virgin Martyr*. *The Dramatic Works of Thomas Dekker*. Ed. Fredson Bower. Vol. 3. Cambridge: Cambridge University Press, 1958. 365-480.

Dekker. *The Belman of London Bringing to Light the Most Notorious Villanies that are now practiced in the Kingdome*. London, 1608.

Deroux, Margaux. "The Blackness Within: Early Modern Color-Concept, Physiology and Aaron the Moor in Shakespeare's *Titus Andronicus*." *Mediterranean Studies* 19 (2010): 86-101.

Dobson, Mary J. *Contours of Death and Disease in Early Modern England*. New York: Cambridge University Press, 1997.

Dukas, Reuven. "Introduction." *Cognitive Ecology: The Evolutionary Ecology of Information Processing and Decision Making*. Ed. Dukas. Chicago: University of Chicago Press, 1998. 1-20.

Guerenstein, Pablo and Claudio Lazzari. "Host-Seeking: How triatomines acquire and make use of information to find blood." *Act Tropica* 10 (2009) 148-159.

Haraway, Donna. *Modest_Witness@Second_Millennium. FemaleMan_Meets_Oncomouse*. New York: Routledge, 1997.

—. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.

Hooke, Robert. *Micrographia: or some Physiological Descriptions of Minute Bodies made by Magnifying Glasses with Observations and Inquiries thereupon*. London, 1665.

Lockwood, Jeffrey. *The Infested Mind: Why Humans Fear, Loathe, and Love Insects*. New York: Oxford University Press, 2013.

Loomba, Ania. *Shakespeare, Race, and Colonialism*. New York: Oxford University Press, 2002.

Mendl, Michael et. al. "Animal Behaviour: Emotion in Invertebrates?" *Current Biology* 21.12 (2011): 463-465.

Mitchell, J. Allan. *Becoming Human: The Matter of the Medieval Child*. Minneapolis: University of Minnesota Press, 2014.

Moffett, Thomas. *The Theater of Insects*. Vol. 3 of Edward Topsell's *The Historie of Four-Footed Beasts and Serpents and Insects*. London, 1658.

Morton, Timothy, *The Ecological Thought*. Cambridge: Harvard University Press, 2010.

Neri, Janice. *The Insect and the Image: Visualizing Nature in Early Modern Europe, 1500-1700*. Minneapolis: University of Minnesota Press, 2011.

Ogilvie, Brian. *The Science of Describing: Natural History in Renaissance Europe*. Chicago: University of Chicago Press, 2006.

—. "Order of Insects." *Life Sciences in Early Modern Philosophy*. Ed. Ohad Nachtomy and Justin E.H. Smith. New York: Oxford UP, 2013.

Pepys, Samuel. *The Diary of Samuel Pepys*. Ed. Robert Latham and William Matthews. 10 vols. Berkeley: Univ. of California Press, 1974. 23 April 1662, 3:70 qtd. in Sarasohn, "'That Nauseous Venomous Insect:' Bedbugs in Early Modern England," 513.

Pliny, *Natural History*. Book XI. Trans. Philemon Holland. London, 1601.

Raber, Karen. *Animal Bodies, Renaissance Culture*. Philadelphia: University of Pennsylvania Press, 2013.

Rothenberg, David. *Bug Music: How Insects Gave Us Rhythm and Noise*. New York: St. Martin's, 2013.

Sarasohn, Lisa. "'That Nauseous Venomous Insect:' Bedbugs in Early Modern England." *Eighteenth-Century Studies* 46.4 (2013): 513-530.

Scott, Charlotte. "Still Life?: Anthropocentrism and the Fly in *Titus Andronicus* and *Volpone*." *Shakespeare Survey: Shakespeare, Sound and Screen*. Vol. 61. Ed. Peter Holland. Cambridge: Cambridge University Press, 2008. 256-268.

Serres, Michel. *The Parasite*. Trans. Lawrence Schehr. Minneapolis: University of Minnesota Press, 2007.

Shannon, Laurie. *The Accommodated Animal: Cosmopolity in Shakespearean Locales*. Chicago: University of Chicago Press, 2013.

Smith, Ian. *Race and Rhetoric in the Renaissance: Barbarian Errors*. New York: Palgrave Macmillan, 2009.

Smith, Jane. "A Question of Pain in Invertebrates." *ILAR Journal* 33 (1991) 25-31.

Thelen, Esther et. al. "The Dynamics of Embodiment: A Field Theory of Infant Perservative Reachin." *Bheavioral and Brain Sciences* 24 (2001): 1-86.

Watson, Robert. "Shadows of the Renaissace." *The Oxford Handbook of Ecocriticism*. Ed. Greg Garrard. New York: Oxford University Press, 2014.

Wilson, E.O. *In Search of Nature*. Washington, D.C.: Island Press, 1996.

---

[1] Even Kings can't escape this gustatory fate, for when archaeologists discovered Richard III's bones beneath a parking lot near Leicester, scientists took sediment samples from the sacrum and discovered evidence of intestinal roundworms (*Ascaris lumbricoides*). For more, see Piers D. Mitchell et. al., "The Intestinal Parasites of King Richard III," *The Lancet* 382 (2013) 888.

[2] Triatomines possess a sensory system with receptors for chemical, thermal, and kinetic cues that signal the presence of a potential vertebrate host. See Guerenstein and Lazzari.

[3] Erika Olbricht examines early modern representations of bees and silkworms in domestic manuals, arguing that they allegorize human labor relations, and Yves Cambefort shows how certain insects, especially beetles, scarabs, and butterflies, emblematize sacred histories and moralizing lessons from classical fables and myths. For more, see Olbricht, "Made without Hands: Representations of Labor in Early modern Silkworm and Beekeeping Manuals" and Cambefort, "A Sacred History on the Margins: Emblematic Beetles in the Renaissance" in *Insect Poetics*.

[4] I recognize that hardcore entomologist might wince at my lumping together of arthropods and nematodes under the category of "insect," but non-specialists tend to conceptualize these together.

[5] See *Select Cases Before the King's Council In the Star Chamber Commonly Called The couty of the Star Chamber A.D. 1477-1509*, ed. Isaac Saunders Leadam (London: Bernard Quaritchm, 1903)

[6] Morton uses "dark ecology" to put "hesitation, irony, and thoughtfulness back into ecological thinking," for the ecological thought "includes negativity and irony, ugliness and horror." For more, see Morton, *The Ecological Thought*, 16-7.

[7] Clark says of the brainbound model, "The (nonneural) body is just the sensor and effector srystem of the brain, and the rest of the world is just the arena in which adaptive problems get posed and in which the brain-body system must sense and act. If BRAINBOUND is correct, then all human cognition depends directly on neural activity alone" (xxvii).

[8] Tribble and Keene deploy "cognitive ecology" as a model with which to explore the "cognitive mechanisms, objects, and social systems" of religion in Reformation England, while emphasizing the importance of an analysis that looks "across the entire system" to include "constraints on memory, perception and attention, or the biological resources that govern our encounters with the world; the means by which the material and social environment is rebuilt (12-3)." Of crucial import is their observation that cognition, by nature of its extension into the world, "is by definition historically situated"(4).

[9] In *The Body in Parts,* Carla Mazzio and David Hillman characterize the early modern period as an age of fragmentation--bodily, socially, culturally, and aesthetically—and made up of cuts and divisions that trouble the part's relationship to the whole. For more, See Mazzio & Hillman, *The Body in Parts: Fantasies of Corporeality in Early Modern Europe* (New York: Routledge, 1997)

[10] The fly scene is absent from the 1597 quarto of *Titus Andronicus* but appears in the 1623 folio. Most scholars agree that the scene was added between 1597 and 1600.

[11] Pity has its limits in *Titus Andronicus*, and one of those limits is somatic color. Marcus further justifies the fly's killability not only by its blackness but also the way in which its color denotes the play's black villain, "Pardon me, sir, it was a black ill-favoured fly / Like to the empress' Moor. Therefore I killed him" (3.2.67-8). In comparing the insect's black body to Aaron's "coal-black" body, Marcus acts out what Ian Smith describes as "a dramatic allegorical fantasy of murder and cultural eradication (126)." Reversing his allegiance, Titus no longer pities the fly but instead delights in its further mutilation, stabbing the carcass not once but twice: "Give me thy knife; I will insult on him … There's for thyself, and that's for Tamora" (3.2.72-4). The link between black humanity

and animality is at stake in this scene. An incipient racist discourse marshaled zoological tropes to denote the otherness of black humanity. Shakespeare's *Othello* provides many well-known examples—"old black ram," "barbary horse" (1.1.87, 110)—and when Iago reveals to Brabantio his daughter's secret elopement, the news will "[p]lague him with flies" (1.1.70). Also at stake are black bodies, both human and nonhuman, slated for death. Aaron reminds us of this bleak fact as he callously confronts his own extermination at the play's conclusion:

> I have done a thousand dreadful things
> As willingly as one would kill a fly,
> And nothing grieves me heartily indeed,
> But that I cannot do ten thousand more. (5.1.141-144)

Aaron compares the ease with which he commits wicked deeds to the ease with which humans kill bugs. "Whereas Titus worries about killing a harmless fly," Ania Loomba writes, "Aaron thinks of human beings as flies, to be destroyed at will" (80).

What is striking about Aaron's final speech is the inferred vision of mass insecticide, "a thousand dreadful things," which I can't help but imagine as a thousand dead flies. Ironic perhaps is that Aaron is one of the few characters in *Titus Andronicus* whose body is not insected, dismembered, lopped, carved, or torn limb from limb. For a character so manifestly connected to the figure of the insect, in death, Aaron is very much unlike an insect, for he retains his bodily integrity. His is not a body in parts. In handing down Aaron's death sentence, Lucius commands that he be buried in the earth and starved:

> So set him breast-deep in earth and famish him;
> There let him stand and rave and cry for food.
> If anyone relieves or pities him,
> For the offence he dies; this is our doom.
> Some stay to see him fastened in the earth. (5.3.178-82)

For all the ways in which Aaron is rendered inhuman in *Titus Andronicus*—"hellish dog," "wall-eyed slave," "accursed devil"—he distances himself from insects as one who exterminates them.

[12] Absolute anthropomorphism registers complete ontological difference between humans and animals, while relative anthropomorphism maintains the same distinction but insists that some humans are more or less "human" than others. For more on this distinction, see Bruce Boehrer, *Shakespeare Among the Animals: Nature and Drama in the Drama of Early Modern England* (Basingstoke, 2002)

[13] Erica Fudge argues that anthropocentrism dangerously leads to anthropomorphism, which ultimately disallows the separation of species. For more, see Fudge, *Perceiving Animals: Humans and Beasts in Early Modern English Culture* (New York: St. Martin's Press, 1999)

[14] In order to induce stress in honeybees, the experimenters vigorously shook their habitats in such a way as to simulate predatory attack. The observed behavior was proboscis extension (or the delay thereof) in response to odor stimulants.

Neurotransmitter levels were measured in the honeybees' hemolymph. The researchers suspect that fluctuations in serotonin, octopamine, and dopamine affect the neural circuits that encode olfactory memories and might therefore lead to the expression of negative bias.

CHAPTER 4

DESDEMONA'S DILDO: MAKING DO WITH FETISH OBJECTS AND MINDING THE TRANS BODY IN *OTHELLO*

"At that moment, noticing that his embroidered handkerchief was revealing part of its coloured edging, he thrust it back into his pocket with a startled glance, like a prudish but not innocent woman concealing bodily charms which in her excessive modesty she sees as wanton."

—Marcel Proust, *In the Shadow of Young Girls in Flower*

PART ONE: FETISHES

The pilot episode of the British 1970s comedic sitcom *Are You Being Served?* opens in Grace Brothers, a London department store undergoing a major change.[1] The women's clothing department is in the process of relocating into the same space as the men's, an area which both must share. Much of the sitcom's humor relies on the conflict arising in this hybrid, curiously gendered space. The once separate feminine and masculine spaces are displaced by the collision of both, a newly confused space that engenders dysfunction and consequently elicits comedic results. Later in the episode, the floor supervisor, Captain Peacock, teaches a rookie employee, Mr. Lucas, how to properly flute a handkerchief. With dexterity and ease, Peacock flutes his handkerchief into an unmistakably erect phallus before deftly stuffing it into his coat pocket. However, when the inexperienced Lucas attempts the same, his handkerchief flops over clumsily like a flaccid penis. In the likening of skill to erection and inability to penile flaccidity, this made-for-TV moment wittily anticipates the premise of this chapter. Turning to the early modern stage, I argue that the most notorious handkerchief in all of English literary history, Desdemona's in Shakespeare's *Othello*, is materially as well as semiologically

phallic. That is, by connecting the handkerchief both to a fledgling concept of fetish emerging in the period's travel literature and to representations of dildos in early modern texts, I contend that the handkerchief serves Desdemona as a dildo. As such, it replaces the fetish's substitutive logic—the theoretical premise that the fetish stands in for a lost object of desire—with a transitional one, enabling her transition from "a maiden never bold" to "such a man" (1.3.95, 164). Moreover, as the multiple parts of this chapter may register, mobility is precisely the point. As a dildo, the handkerchief is movable, capable of fastening to the body but fundamentally detachable, as it sustains what Mario DiGangi has called "the indeterminacy of 'the sexual'" or what I prefer to read as Desdemona's transitional sex (11). Ultimately, through the movement of the handkerchief, the play affirms not only the mutability of Desdemona's sex but also its unknowability.

Given the fact that scholars routinely link Desdemona's handkerchief to the female body, the notion of the handkerchief as a phallus, artificial or otherwise, in *Othello* may seem a dubious conjecture. Most cultural historians would likely agree that early modern handkerchiefs aided specifically in the construction of the *feminine* gender. As Ian Smith observes in a recent essay "the overwhelming critical tendency [is] to associate the handkerchief with Desdemona" and her sexual anatomy (3). Lynda Boose, for example, famously argued that the handkerchief is "a visually recognizable reduction of Othello and Desdemona's wedding-bed sheets, the visual proof of their consummated marriage," in turn rendering the textile metonymic with Desdemona's devirginized body (363). Following suit, Karen Newman relates the handkerchief to Desdemona's "sexual parts—the nipples, which incidentally are sometimes represented in the courtly love blazon as strawberries, lips, and even perhaps the clitoris" (156), and Patricia Parker

connects the handkerchief to the "dilation" of "a specifically sexual opening," namely the vagina (92). Although Parker's analysis gestures to fantastically "monstrous" female sexual parts such as those mentioned in Ambroise Paré's *Des monstres et prodiges*, Leo Africanus' *Geographical Historie*, and Helkiah Crooke's *Microcosmographia*, she redirects us to an early modern female body that is incised, dissected, and ultimately penetrated by both the masculine gaze and the anatomist's scalpel.[2] The recuperative impulse of these feminist projects in articulating correspondences between the handkerchief and the female body is to expose the insidious inner-workings of white, imperial, European masculinity. The problem, however, is that such readings rely on a version of the female body which is fixed, with overdetermined female parts: properly situated lips, vagina, and breasts. What counts as "woman" evokes a conventionally feminine anatomy. Although these critics are acutely attentive to masculine fantasies about female bodies, they ultimately re-inscribe the fixity of the very body they seek to recover, consequently sidestepping possibilities for alternatively configured bodies that defy normative arrangement. The ways in which sex and gender are mapped onto Shakespeare's female characters as well as the genitally male actors who portrayed them are complex and, for this reason, encourage continual critical scrutiny and reevaluation. I take seriously Newman's exhortation to critics:

> The task of political criticism is not merely to expose or demystify the ideological discourses which organize literary texts, but to *reconstitute* those texts, to reread canonical texts in non canonical ways which reveal the contingency of so-called canonical readings, which disturb

> conventional interpretations and discover them as partisan, constructed, and rather than given, natural, and inevitable. (157)

Scholars of early modern sexuality have recently turned their attention to the multiplicity and opacity of non-identitarian forms of sex. In the collection *Sex before Sex*, James Bromley and Will Stockton argue that "sex is a non-self-identical concept, subject to different constructions, and thus to playing different roles" (4). Valerie Traub notes that, in effect, sex has been raised "to the status of a question" (303). It possesses an element of decidability (or perhaps even undecidability) in the proliferation of sexual possibility in the period. This openness forces us to ask what it is we mean by "sex," especially when early modern "sex" referred not to sexual acts but to sexual difference (Bromley and Stockton 11). For this reason, I purposefully leave the term somewhat undefined, so that it may entangle meanings of gender, sexuality, and embodiment by suggestion rather than conclusion. This chapter questions how the handkerchief transgresses its own supposed sexual meanings—its radical significatory potential—and how it manages to vehiculate multiple, shifting, and paradoxical meanings not only in *Othello* but also in *Othello* criticism. Jonathan Gil Harris reminds us that Desdemona's handkerchief is "a palimpsest, a writing surface upon which multiple signs and narratives are inscribed and erased," and "[r]ather than focus on what the handkerchief might *mean*, therefore, we should think also about what the handkerchief *does*—or more specifically, what is done with the handkerchief, and what couldn't be done without it" (180). Like Harris, I too am interested in what the handkerchief does, but I am equally as interested in what and especially who the handkerchief *undoes*. Mere moments before her murder at the hands of her husband, Desdemona cries, "Alas he is betrayed and I undone" (5.2.75).

Her undoing conveys the fragility of identity in extremis, the contingencies of flesh, and what Judith Butler describes as "the thrall in which our relations with others hold us," even with "others" as unwieldy as Othello or as droppable as a handkerchief (23) "Let's face it," Butler writes, "We're undone by each other. And if we're not, we're missing something." The fabric cleaves to Desdemona, at first adhering but then retreating her touch, while it does and undoes the semiology of her sex thereby exposing her body to violence.

At stake is Desdemona's vulnerability, but of equal consequence is the agency of objects and the degree to which things, such as handkerchiefs, can do or undo anything at all, especially to a woman's sex. Harris envisions the napkin entering into "a diverse array of [Latourian] actor networks" where it performs multifarious labors as a love token, a receptacle for bodily fluids, and a tool for manipulation: "Work is not only done on and to the handkerchief, however; it is seemingly done also by the handkerchief itself, as when Iago—having employed mention of it to induce a seizure in Othello—remarks, 'Work on, my medicine, work!' (4.1.41)" (176). The handkerchief also seems to work earlier in the play when Iago realizes that it "may do something" as false evidence of Desdemona's infidelity (3.3.327). The object exercises agency in that it may or may not perform its intended labor. To not "work" is its prerogative. Object-oriented ontology might insist that there's no way of fully knowing what the handkerchief can do, that its logic is its own. "There is something that recedes—always hidden, inside, inaccessible," Ian Bogost writes of things (6). It is this notion of withdrawal that I find so appealing in thinking about Desdemona's sex, for if object-oriented ontology is correct in that "the term *object* enjoys a wide berth" including "corporeal and incorporeal entities … material

objects, abstractions, objects of intentions, or anything else whatsoever," then sex too is such an object (Bogost 12). Indeed, sex in *Othello* withdraws from intelligibility, for even as much as Shakespeare's men—Othello, Brabantio, Iago, Cassio, even the Venetian senate—crave to know the appetites and compulsions of Desdemona's body, they cannot. From the opening scene, the precise unknowability of her sex becomes the play's central concern as Iago and Roderigo summon Brabantio to report for his daughter's absence from his purportedly "locked house":

> BRABANTIO. What is the reason of this terrible summons?
>
> What is the matter there?
>
> RODERIGO. Signior, is all your family within?
>
> IAGO. Are your doors locked? (1.1.81-83)

The syndics arouse patriarchal anxiety in order to provoke a search.[3] The image of the locked house is synonymous with the enclosure of Desdemona's body, and Iago and Roderigo probe the possibility that she has broken free and might be "making the beast with two backs" (1.1.115) with Othello, the "old black ram" (1.1.87).[4] The threat of miscegenation looms as the possibility takes shape that Desdemona "hath made a gross revolt," (1.1.131) a queer choice *contra naturam* that might result in "nephews" that "neigh," (1.1.111) reproductive aberrations and monstrous human-animal hybrids.

When Brabantio discovers that "gone she is," he straightaway patrols the streets in search of his wayward daughter and her paramour, "At every house I'll call, / I may command at most" (1.1.158, 178-179). When Othello answers Brabantio's summons, he does not hesitate to confess his crime, "I have taken away this old man's daughter / It is most true; true I have married her," (1.3.79-80) yet even in a confession that means to

speak truth, sexual knowledge withdraws even further as Othello's description of their courtship calls into question Desdemona's commitment to gender norms:

> From year to year, the battles, sieges, fortunes
> That I have passed.
> I ran it through, even from my boyish days […]
> This to hear
> Would Desdemona seriously incline,
> But still the house affairs would draw her thence,
> Which ever as she could with fast dispatch
> She'd come again, and with a greedy ear
> Devour up my discourse. (1.3.131-33, 146-51)

Torn between her "house affairs" and Othello's heroics, Desdemona vacillates between stereotypes of feminine domesticity and rugged masculinity. She hastily fulfills her household chores only to "devour" war stories "[o]f most disastrous chances," "moving accidents," and "hair-breadth scapes i'th' imminent deadly breach" (1.3.135-37). Perhaps even more explicit than her voracious appetite for maschismo is her desire to be a gender contrary to her biological sex, "She wished she had not heard it, yet she wished / That heaven had made her such a man" (1.3.163-164). Othello insists that Desdemona loves him "for the danger [he] had passed," but I would argue that her desire for Othello is also a desire to be *like* him (1.3.168). Not only does she perceive herself as masculine—"unhandsome warrior as I am" (3.4.148)—but so too do others cast her in conventionally masculine roles. Othello calls her "[m]y fair warrior," (2.1.182) while Cassio refers to her as "our great captain's captain" (2.1.74). If Desdemona is Othello's captain and if Othello

is the captain of the Venetian military, then are we to deduce that Desdemona wields authority over all? Iago suggests as much, "Our general's wife is now the general" when he urges Cassio to importune Desdemona (and importantly not Othello) after the drunken brawl (2.3.310). Joan Holmer has argued for Desdemona's masculinity insofar as she "wants to brave the dangers of both journey and war," especially in her dogged insistence to accompany Othello to the Cyprian war zone (138).[5] Acting as "such a man" entails that she aptly performs the martial role of "warrior."

That Desdemona is not the woman she appears to be is confirmed in her own words, "I do beguile / The thing I am by seeming otherwise," (2.1.122-23) which uncomfortably rubs against Iago's "Men should be what they seem" (3.3.129) even as it echoes "I am not what I am" (1.1.64). Iago is forced to admit "[t]hat she may make, unmake, do what she list" (2.3.241) and that "she must have change, she must," (1.3.352) for her identity is changeable—transitional, if you will—and subject to both her whims and will to dissemble."Be as your fancies teach you," she counsels Othello (3.3.88). When Desdemona first appears in the play, she does so not as "a maiden never bold" but as a dauntless "warrior," defending her disobedience with a maternal precedent:

> I do perceive here a divided duty.
> […] I am hitherto your daughter. But here's my husband:
> And so much duty as my mother showed
> To you, preferring you before her father,
> So much I challenge that I may profess
> Due to the Moor my lord. (1.3.181, 186-89)

While Desdemona may recognize a "divided duty" between her father and husband, her mind is made up even before she speaks, for as Roderigo warns Brabantio, she has already tied "her duty, beauty, wit, and fortunes / In an extravagant and wheeling stranger / Of here and everywhere" (1.1.132-35). Disobedience, it seems, is matrilineal, but Desdemona's public performance of insubordination matches that of Othello's forthright confession, perhaps even more so as she loudly professes her will to marry Othello in spite of her father's and the state's objections: "That I did love the Moor to live with him, / My downright violence and storm of fortunes / May trumpet to the world" (1.3.249-251). Desdemona refuses enclosure; the door to the "locked house" is thrown open.

For critics, readers, and audience members alike, Desdemona has been a problematic character vacillating between virtue and vice, morality and transgression, purity and prurience. Emily Bartels confronts the fact that she has "continually eluded our critical grasp" as she "gives us, in effect, two selves to choose from" (423). This duality is due in part to her inscrutable sex. Desdemona eludes critical capture, I argue, because she is trans. Not only is she a transvestite on the Shakespearean stage, a space already riddled with cross-dressing—male actors dressed in drag and acting like women—but, within the drama of the play, her gender bending flies in the face "[o]f years, of country, credit, everything" on which she had been reared (1.3.99).[6] Most are aware by now that cross-dressing is par for the course in Shakespearean drama. One need look no further than *Twelfth Night* or *As You Like It* for exemplary cross-dressed women.[7] Desdemona's case, however, is unique. Unlike Viola cloaked as Cesario or Rosalind costumed as Ganymede, she never disguises herself in men's clothes. Moreover, not only her gender but also her survival are contingent upon her possession of a small square of fabric which

conceals within its folds the supposed truth of her sex—whether or not she slept with Cassio, whether or not she is faithful to Othello, and of course whether she is indeed "such a man" or a "maiden never bold." The fact of the matter is that as soon as the handkerchief seems to tell the truth of her sex, it covers it up. When Emilia discovers the misplaced token and hands it over to Iago, she acknowledges that it serves as Desdemona's "first remembrance of the Moor," (3.3.293) but in Iago's possession, she admits, "what he will do with it / Heaven knows, not I" (3.3.298-299). While Emilia recognizes Iago's unpredictability, she also hints that not even the character who wields the handkerchief can fully know its capacities.

The handkerchief only appears truthful because of its ability to confer identity. Will Fisher has written brilliantly about how handkerchiefs, as accessories for the social elite in early modern England, "materialized" notions about the feminine gender and the female body, especially "the patriarchal ideology figuring women as 'leaky' vessels" and therefore as sexually incontinent (44). Iago exploits this pseudoscientific association to manufacture Desdemona's promiscuity—an "impudent strumpet" and "cunning whore" to borrow Othello's insults (4.2.82, 91)—because the handkerchief is coextensive with her body, not just the way in which it collects her bodily fluids, but also how it stretches her body into the social world. It is a love token gifted in courtship, a contemporary fashion, and a repository for sweat, mucous, saliva, and maybe even blood—if not Desdemona's then at least the mummified fluids of "maiden's hearts" with which it was dyed (3.4.77)—teasing "the border between the courteous and the carnal, the sacred and the profane" (Fisher 48). Peter Stallybrass and Rosalind Jones claim that such "detachable parts" are fetish objects that also double as "external organs of the

body"(116). If the handkerchief as a fetish indeed acts as an external organ, then to which part of the body does it refer? And to whom does this body part belong? Fisher convincingly argues for a "link between the handkerchief and the hand," (38) but the primary critical trend has been to attribute the handkerchief to Desdemona's reproductive organs.

By contrast to these approaches, psychoanalytic theories of the fetish lead us to the penis or, more precisely, the substitute penis. Others before me have of course theorized the handkerchief's phallic role within the play's Oedipal schema. In *The Tragic Effect*, André Green first identifies Shakespeare's "two-hundred-year-old seamstress" as a "phallic mother," whose handiwork emblematizes "the Moor's desire for his [own] mother," (99-100) and then refers to the handkerchief as a "phallic emblem" that, when lost, renders Desdemona "a castrated woman" (110). In similar fashion, Peter Rudnytsky reads Othello's "It is the cause" speech inaugurating the play's final scene—Othello says "it is the cause" three times without naming said "cause"—by connecting "[t]he word 'cause,' derived etymologically from the Latin *causa,*" to its French cognate *chose* which then "returns us to that Freudian 'thing,' the absent yet indispensable phallus" (186).

The fetish as a substitute penis, while perhaps a worthwhile heuristic with which to approach Shakespeare's *Othello,* seems almost too convenient a conceptual paradigm with which to read the handkerchief as a dildo. In fact, a logic of substitution—fetish to substitute penis to dildo—oversimplifies the complex relationship which entangles them. The fetish and the dildo, which are nearly synonymous in our present moment, might be better understood during the early modern period in terms of their separate though parallel histories as cultural imports. Natasha Korda has performed much of the

intellectual and archival labor connecting the handkerchief to "a much broader cultural discourse of fetishism" emerging on the West African coast during the early modern period, while critiquing earlier critical attempts to describe the handkerchief as a fetish:

> My difficulty with previous invocations of the term "fetish" in *Othello* criticism is that they tend to recycle the commonplaces of fetish-discourse, rather than analyzing them critically. […] My second objection to such readings is that they tend to ignore or negate the domestic status of the strawberries or, indeed, of the handkerchief itself, resisting the notion that the handkerchief might simultaneously be both "an amulet" or fetish and a "bit of linen." (125-26).

William Pietz also complains that "psychological universalists subsume fetish to an allegedly universal human tendency toward privileging phallic symbolism" that occults the cultural and historical specificity of the fetish (6). "The earliest fetish discourse," he counters, did not concern the phallus as much as it did "witchcraft and the control of female sexuality," which are, incidentally, identical anxieties surrounding Othello and Desdemona's elopement. Brabantio opines:

> She is abused … and corrupted
> By spells and medicine brought of mountebanks;
> For nature preposterously to err
> Being not deficient, blind, or lame of sense
> Sans witchcraft could not. (1.3.60-65)

Pietz instead locates the origin of fetish in the "cross-cultural spaces of the coast of West Africa during the sixteenth and seventeenth centuries" through "a novel social formation

during this period through the development of the pidgin word *fetisso*," pidgin meaning a grammatically simplified form of language used between persons not sharing a common language (5). Put another way, fetish might be understood as an attempt at translation, the failure to transvaluate between "radically different social systems" or, more specifically, between the triangulated points of "Christian feudal, African lineage, and merchant capitalist social systems" (6). Pietz, therefore, urges us to consider fetish in terms of an "abrupt encounter of radically heterogeneous worlds" occurring within a historically unprecedented moment (7). [8]

Fetisso, descending from the Portuguese *feitiço*, originally signified "magic" or "sorcery" associated with witchcraft. Iberian capitalists, pioneering the trade of ivory and other commodities along the Côte d'Ivoire, used the term to describe the unfamiliar religious practices of the natives. Clutching to the antiquated doctrines of the *Codex Theodosianus*, a religious code of law initiated by Rome's Christian emperors, the early European explorers were disquieted by the indigenous infidels and their paganism.[9] In the first act of *Othello*, Brabantio, too, fears the bewitchment of Desdemona by the spellbinding charms of the "Black Moor":

> She is abused … and corrupted
> By spells and medicine brought of mountebanks;
> For nature preposterously to err
> Being not deficient, blind, or lame of sense
> Sans witchcraft could not. (1.3.60-65)

Brabantio makes sense of his daughter's transgression through appeals to the occult, imagining her ability to reason altered by foreign narcotics. He understands Desdemona's

cross-racial desire as an error on behalf of nature, magically precipitated by Othello's "spells and medicine."[10]

Following the Catholic Portuguese, Protestant nations including Shakespeare's England and the Netherlands commenced exploration of the West African Coast. The Dutch traveller Pieter de Marees introduced *fetisso* as a theological concept in his travelogue a year or so before *Othello*'s first documented performance at Whitehall in 1604. For Marees, *fetisso* designates a Guinean artifact, usually made of natural materials—wood, stones, shells—elevated to the status of deity. James Kearney remarks on the fetish's ambiguous ontology in "The Book and the Fetish: The Materiality of Prospero's Text": "From Maree's account, it is unclear whether the fetisso is simply the Guinean god that manifests itself through the use of the 'man made objects' that are also called fetissos, or if these 'amulets' are themselves worshipped as gods" (438). It is this connection to the African occult that produces the handkerchief as such a fetish, a concept with which Shakespeare might have been familiar as it circulated both in England and on the continent during the sixteenth and early seventeenth centuries. Its African provenance, however, is a source of contention. The ontological uncertainty that Kearney observes is further complicated by the object's ancestral indeterminacy, as Othello offers conflicting accounts of its origin. On the one hand, he insists, "It was a handkerchief, an antique token / My father gave my mother" (5.2.214-15). Then, on the other, he claims a more exotic heritage:

> The handkerchief
> Did an Egyptian to my mother give,
> She was a charmer and could almost read

> The thoughts of people. She told her, while she kept it
> 'Twould make her amiable and subdue my father
> Entirely to her love. (3.4.58-63)

Sewn by a sibyl and gifted to Othello's mother by a charmer, the handkerchief emerges not as a deity for worship as in de Maree's account, but instead as a religio-erotic lure, a venerable sex toy of sorts. The handkerchief's magic enables Othello's mother to "subdue" her husband, a sharp departure from its more traditional uses in early modern English culture as a civilizing instrument and an unorthodox reversal of sexual power that disorders conventional gender relations. When Fisher points out that "the item itself might be seen as a 'disciplinary apparatus,'" however, he refers to a different sort of sexual domination. He argues that the handkerchief "provides a means of keeping women's bodies 'dry' and within the [implicitly masculine] limits set by a norm" (41). As such, the handkerchief might be bound up with what Gail Kern Paster has shown was an emergent cultural and medical discourse concerned with "women's bodily self-control" (or the lack thereof), an anxiety which had been "naturalized" by Galenism and the "conventional Renaissance association of women and water" (25).[11] Even so, Othello's mother shows that discipline goes both ways as long as she maintains possession of the handkerchief: "[I]f she lost it / Or made a gift of it, [Othello's] father's eye / Should hold her loathed" (3.4.62-4).

Coincident with Shakespeare's composition of *Othello,* an incipient racist discourse circulated narratives of masculine, African women subduing their husbands like wives. Ania Loomba and Jonathan Burton observe that "as European encounters with the non-European world widened, older tropes about particular places were reiterated and

recirculated, to new and diverse effects" (18). Fantasies about African gender reversal, they note, date back to *The Histories* of Herodotus in which one famous account imagines Egyptian women who "make water standing" and men who not only "remain at home and play the good housewives" but also urinate by "crouching down and cowering to the ground." Africanus, a Moroccan-born Catholic convert who lived and wrote in sixteenth-century Italy, writes about Ethiopian wives who forced their husbands into domestic labor, "These women are ambitious and proud, that all of them disdain either to spin or play the cooks: wherefore their husbands are constrained to buy victuals." The English traveler George Sandys likewise describes Egyptian women who bend their husbands to their wills, "[T]he women too fine fingered to meddle with housewifery, who ride abroad upon pleasure on easy-going asses, and tie their husbands to the benevolence that is due." Both continental and domestic sources marshal classical tropes of African gender reversal into a ripening concept of modern race.

Part Two: Dildos and Delight

While *Othello* is in conversation with these accounts, the play is also distinct from them in that the gender reversal—or what I refer to as transition—is potentiated by the fetish. Korda observes that Othello, whose "use of occult terminology … is also strongly evocative of the discourse of fetishism," coaxes Desdemona to value the handkerchief in such a way that recalls "European travelers' descriptions of West African fetish worship," especially in his "insistence that the object be worn about Desdemona's body at all times, and that it be adored" (128). Adore it she does, for as Emilia notes, "[S]he so loves the token / … That she reserves it evermore about her / To kiss and talk to"

(3.3.297, 299-300). To make sense of the handkerchief, in other words, we might return to Fisher's claim that Desdemona "treats the object as if it were … a doll," less so as *juju*, a term for an African charm, and more so as *jou jou*, the French diminutive for "toy" (54). In fact, the handkerchief suggests a different type of "toy" or, more specifically, a different type of "attachment"—a "strap-on"—for as Norbert Elias states in his *History of Manners*, handkerchiefs were worn "hanging from the lady's girdle" (145). This statement anticipates Liza Blake's argument that, much like handkerchiefs, sixteenth and seventeenth-century dildos primarily functioned as bodily accessories.

But if the handkerchief acts as a kind of fashionable pleasure device that Desdemona can attach and detach, it functions as more than just an artificial phallus, "[E]ven if the dildo began as a representation of the penis," Blake writes, "it survived in a way the codpiece did not because dildos and strap-ons, almost as soon as they emerged, ceased to directly refer to or represent a bodily organ *and the ideologies supporting it*, and acquired a life of their own as functional objects and luxury commodities" (134). Most perplexing about this transition from penile proxy to accessory is the semantic evolution of the early modern dildo—that is, the way in which it initially references the body part it intends to simulate only then to surrender that association in favor of a logic of accessorization. My point, then, is that the dildo, as an emergent concept in early modern England, had not yet accrued nor concretized a stable set of meanings and instead circulated as a polysemous term evocative of, though not absolutely signifying, the penis.

Dictionaries from the period vary in this regard. John Florio's 1598 Italian-English lexicon, *A Worlde of Wordes*, describes the dildo as a *pastinaca muranese* or, in English, a "glass parsnip." Florio's *pastinaca* likely alludes to Aretino's *Ragionamento* in

which a fruit basket delivered to a convent is found to contain "glass fruits made in Murano … shaped like a man's testimonials" (qtd. in Wolk-Simon 53). Linda Wolk-Simon tells us that parsnips, "as they were understood in the Renaissance," could function as "metaphor[s] for phalli of flesh" but were also "the contents of the woman's basket," a symbol of both sex and domesticity (53). Such fruit, she argues, resonated with lewd, carnal, and preeminently homoerotic associations." The glass parsnip's eroticism was further elaborated by the historical practice of crafting dildos from Murano, a decorative style of luxury glassware associated with the Venetian island of the same name. In *Cultural Capitals,* Newman argues that early modern English authors would have been familiar with these glass commodities not only from Aretino's dialogues but also from the metropolitan marketplace where a glass dildo was "a marker of a certain urban and mercantile sophistication," especially in cities like London:

> We know that Murano glass objects were imported to England as early as the fourteenth century. In 1549 a group of Muranese glassmakers settled in London and produced Venetian glass for several years, and in 1571, a Muranese glassmaker named Jacopo Verzelini […] received a royal patent to produce Murano glass, brought additional recruits from Italy, and manufactured Venetian glass in London for at least fifteen years. (143)

Florio's definition of the dildo as a vitreous root vegetable differed markedly from that of Elisha Coles's *English Dictionary* which defined it as a "penis succedaneus." "Succedaneus," meaning "substitute," stems from the Latin *succedere* meaning to "come close after." Unlike Florio's metaphorical and highly allusive *pastinaca muranese*,

Coles's Latinate dildo signifies that which *follows* the penis—nonidentical yet proximate—and surrogates the original's purpose.

The earliest, non-dictionary mention of the "dildo" in English literature seems to embrace both dictionary definitions. Thomas Nashe's erotic poem "The Choise of Valentines," popularly known as "Nashe's Dildo" or in manuscript as "Nash his Dildo," narrates how the mistress Francis abandons lovemaking with the comically "premature" Tomalin in favor of prosthetic recreation, preferring her "little dildo" made of "thick congealed glasse" to her "too-soone" john: "it played at peacock twixt [her] leggs" while guaranteeing to "neuer make [her] belly swell" with child (II.275, 243, 246). "Stiff" as if it "were made of steele," Francis' dildo serves as a source of female pleasure, managing to mimic select functions of a biological penis while conveniently lacking its reproductive ones (242). Nashe describes it as "nourish't with whott water or with milk" and having one ejaculatory "eye" that "fervently doeth raigne," (II.274, 270-71) which Blake connects to the historical "practice of filling dildos with warm milk to simulate erection or ejaculation" (133).[12] Nashe's artificial penis strives, at least partially, for both penile form and function while serving as an accessory—in the legal sense as well as the fashionable—to Francis' sexuality.[13] Traub goes so far to say that "throughout the poem, the dildo functions as a fetish," and that "[b]oth the dildo and the poem itself function as substitutes for a lost object of desire, the all-powerful penis" (98).[14]

While the dildo's succedaneous meanings were legible to those culturally savvy enough to be "in the know," the *OED* insists that the word itself is "of obscure origin" with similarly obscure meanings. It cites an early theatrical appearance in Act 4 of Shakespeare's *The Winter's Tale*, when the servant announces the entrance of Autolycus:

"He has the prettiest love songs for maids, so without bawdry, which is strange, with such delicate burdens of dildos and fadings, 'jump her and thump her'" (4.4.193-97). By claiming that the songs are "without bawdry" but then obscenely lyricizing the "thumping" and "jumping" of a maid, the servant puns on the bawdiness of balladry. The "dildo" here, however, does not explicitly signify a *penis succedaneous* but instead becomes risqué by context. Blake confirms, "In the ballad tradition, well into the seventeenth century, the word 'dildo' sometimes bears no meaning at all" and is not so different from "hey nonny, nonny" or "hey nonino" popularized by Shakespeare in comedies like *Much Ado About Nothing* and *As You Like It*.[15]

In an anonymously composed seventeenth-century ballad attributed to Jack o' Lent, Tudor and Jacobean England's famed straw man, the unnamed balladeer uses a "dildo" not only as a nonsensical metrical device—"With a dildo, dildo, dildo, / With a dildo, dildo, dee" (5-6)—but also as a "long thing" that calls the female protagonist's sex into question: "Some say 'twas a man, but it was a woman" (11, 7). When she climbs upon a high-strung rope, "Knights and gentlemen / Of low and high degree … cast up fleering eyes / All underneath her cloaths" to discern her "true" sex (15-16, 22-23). To their dismay, her "linen hose" preserve the mystery. Not only does Jack o' Lent's dildo humorously complicate the fixity of the dual sex binary, but it also realizes possibilities of transsexuality, prosthetic embodiment, and the cloaked unknowability of sex concealed behind fabric.

Dildos were not limited to the ballad tradition. Prose texts from the period also contributed to the term's polysemy and shifting provenance. Travelogues especially demonstrate how the dildo was in transit during the early modern period as its ability to

cross national and linguistic borders paralleled its ability to breach the boundaries of the body. Blake discusses William Dampier's *A new voyage round the world,* which references cactus-like "*Dildo*-bushes" and "*Dildoe*-trees" as "big as a mans [sic] Leg" and "prickly," (81, 93). In another seventeenth-century travelogue, John Fryer describes sexually inordinate natives dancing and beating "Brass Pots with a great Shout" around a dildo erected upon an altar. He even mentions "jougies," ceremonialists who presided over the dildo-centric ritual and a term which provides a semiotic link from *juju* to *jou jou*. The dildo's French connection might be unsurprising considering early modern English attitudes toward their ribald European neighbor. The early eighteenth-century long poem *Monsieur Thing's Origin, or Seignor D—o's Adventures in Britain* goes so far to suggest that the dildo was not an Italian invention but instead a French one, a claim corroborated by a seventeenth-century religious pamphlet entitled *The Character of a town-misse*, warning London's bachelors of a young *fille de joie* with "skin … cleerer than her conscience" and who travels about town with a "box of teeth," a "Blackmore," "a little dog," and a "*French Merchant* to supply her with *Dildo's*" (7).[16] A cultural import of ambiguous origins, the dildo's meanings were complicated by contested ties to the Italians and the French, continental foes threatening to pollute English fantasies of national purity. Domestic anxieties surrounding "foreign" dildos were symptomatic of what Newman describes as a "xenophobic English view of exotic and commercial practices and their fruits" (144).

Such strange fruits nonetheless found their way onto the English stage, where dildos performed even more ambiguous, though no less sexually suggestive functions. John Marston's *Antonio and Mellida* (1601) features Dildo, the wise-cracking

manservant and sidekick to Balurdo, who finds his comedic counterpart in Castilio's page, Cazzo, whose name of course is slang for "penis" in Italian. Moreover, *Antonio and Mellida*, like *Othello*, features an important gender transition; Marston's protagonist, Antonio, disguises himself as an Amazon, Florizell, in order to access his beloved, Mellida, the daughter of his father's political rival, Piero. Similar to other period comedies, Marston's play features an induction in which the actors, portraying themselves, stage a meta-theatrical conversation about their assigned roles. The boy actor cast as Antonio seems especially worried about playing a cross-dressed Amazon: "I was never worse fitted. […] I shall be hissed at" (Induction, 62-3). When another actor asks, "Why, what must you play?", Antonio replies, " I know not what," insinuating that the very idea of an Amazonian transvestite is beyond his conceptual reach (Induction, 64-5). In the early modern imagination, Amazons, according to Kathryn Schwarz, probed the fantasy, possibility, and ultimate unknowability of a group of "others" that were "[at] once masculine and female, mistaken for men and looked at as women" (2). The actor ultimately concludes that his character is "an hermaphrodite, two parts in one" and that the success of his performance will depend on "signs and tokens" because his voice is unable "to hit the right point of a lady's part" (Induction; 65, 110, 74-5).

Ben Jonson's unusual reference to a dildo in *The Alchemist* (1609) is also noteworthy. At the play's end, Subtle's alchemical laboratory is revealed for what it really is in Lovewit's reaction to his wrecked home:

> Here, I find
> The empty walls worse than I left them, smoked,
> A few cracked pots and glasses, and a furnace;

> The ceiling fill'd with poesies of the candle,
>
> And madam with a dildo writ o' the walls. (5.538-42)

The ramshackle laboratory emblematizes the play's primary deception (the fantasy of transmuting objects into precious metals is just that, a fantasy), and Jonson uses a dildo to drive that point home by further profaning an already debased scene. Juliet Fleming argues that the dildo "writ o' the walls" is a form of early modern graffiti:

> 'Poesies of the candle,' usually glossed as stains caused by candle smoke, can also mean … verses, slogans, or signatures written on the ceiling in candle smoke: additions to the word Madam, and the drawing of a dildo—or alternatively to the text of a ballad called 'Madam with a dildo," or to a portrait of a woman with a dildo—that have already been written on Lovewit's walls. (54)

In Jonson's play text, it is unclear whether the dildo is written or pictorialized, but much like Shakespeare's and Marston's dildos, Jonson's is purely referential. The object itself fails to appear on stage and exists only as a vandalized representation, smeared in the blackened scrawls of a burnt candle which the audience never sees.[17]

What then does it mean to discover a dildo in a play that makes no explicit mention of it? Better yet, if the meanings of early modern dildos were in flux and if dildos don't always resemble a penis, then how do we know when we've come across one? In the case of *Othello*, I suggest taking our cue from the contemporary lesbian dildo debate. Heather Findlay identifies two oppositional camps: those lesbians who "have debunked the dildo and its notorious cousin the strap-on calling them 'male-identified'" against others who "have argued that dildos do not represent penises; rather, they are sex

toys that have an authentic place in the history of lesbian subculture" (564). At stake is the gendering of the dildo that comes to bear the social wrongs of misogyny, homophobia, and transphobia at the hands of violent masculinity. "Whether they know it or not," Shari Thurer argues:

> [T]he 'any-shaped-dildo-will-do lesbians are making a case for queer theory. By arguing that dildos, irrespective of their appearance, are gender neutral, that their meaning is in the eye of the beholder, they are affirming the postmodern idea that meaning is unstable. By calling into question the gender quotient of even such an apparently straightforward item as a lifelike dildo, they are demonstrating the arbitrary and constructed nature of our pleasure. (56)

Following Thurer, I contend that dildos have the potential to upend binary organizations of gender and allow us to explore questions of sexual pleasure and the instances when pleasure (and the *choice* to partake in pleasurable acts) is put under pressure. As it happens, the word "dildo" phonetically gestures to one of its possible roots, *diletto*, Italian for "pleasure" or, more precisely, "delight." The word "delight" occurs three times in *Othello*—five if you include "delighted"—with each mention concerning implicitly or explicitly Desdemona's sexuality and capacities for pleasure. The first appears in Iago's plan to bait Brabantio with news of his daughter's disappearance, "Rouse him: make after him, poison his delight" (1.1.67). The "poison" spoiling Brabantio's "delight," we come to learn, is Desdemona's elopement, exaggerated by Iago to incite patriarchal anxiety about interracial sex. The second mention of the word is in Brabantio's inquisition of his daughter's rejection of the "wealthy curled darlings of our nation" and her shocking

preference for "the sooty bosom / Of such a thing as [Othello]"—a thing "to fear, not to delight" (1.2.68, 70-1). Brabantio's strife becomes the onus of Venice's politicos as all are forced to question how the well-bred daughter of a European noblemen could not only prefer but also take pleasure in a dark-skinned "thing."[18] The objectification of Othello's somatic color further exoticizes the pleasure Desdemona experiences through her perverse attachment to "things."

A third mention of Desdemona's "delight" comes in reference to her ocular pleasure or, according to Iago, lack thereof in *looking* upon Othello. The villain fumes, "Her eye must be fed; and what delight shall she have to look on the devil" who is "defective" in "manners and beauties" (2.1.223-4, 227-8). The critical problem for Iago is that Desdemona *does* in fact take pleasure in the Moor's image, "I *saw* Othello's visage in his mind, / And to his honor and his valiant parts / Did I my soul and fortunes consecrate" (1.3.253-5, emphasis mine). Desdemona's desire shades toward the sacred in her devotion to Othello's "parts." Delight in Shakespeare's play centers not only around her sexual pleasure but also the "parts" to which she commits herself. After she loses the handkerchief, however, she fears that Othello believes her "parts" —her eyes, ears, and other sensory organs—may have betrayed their marriage:

> If e'er my will did trespass 'gainst his love
> Either in discourse of thought or actual deed,
> Or that mine eyes, mine ears or any sense
> Delighted in any other form …
> Comfort forswear me! (4.2.154-7, 161)

Diletto, in *Othello*, is so deeply woven into the handkerchief that its disappearance forecloses possibilities for further pleasure. It is in these moments where delight produces anxiety that the seams of sexual identity come undone, and sex becomes an uncertainty. Iago is full aware of the implications and manipulates this indeterminacy to deprive Desdemona of sexual agency—her right to express her own sexuality—and to convince Othello of her adulterous intentions: "Look to your wife … / In Venice they do let God see the pranks, / They dare not show their husbands" (3.3.212, 217-9). Iago knows that Desdemona's sex is "keep't unknown," so he effectively transfers Brabantio's anxiety over a disobedient daughter to Othello's insecurity of an unfaithful wife: "She did deceive her father, marrying you, / And when she seemed to shake, and fear your looks, / She loved them most" (3.3.209-11). Desdemona's talent for "[giving] out such a seeming" works against her (3.3.212).[19]

Part Three: Making Do

Shakespeare centers the drama of *Othello* around a body that transitions from "with" to "without." Desdemona first possesses but is soon dispossessed of her handkerchief, an item that, I propose, might be reread as a transitional object, though not strictly in the psychoanalytic sense. Newman criticizes the "psychoanalytic scenario" for its phallogocentrism and the ways in which "it privileges a male scopic drama, casting the woman as other, as a failed man, thereby effacing her difference and concealing her sexual specificity behind the fetish," but I wonder if, for a woman like Desdemona, "sexual specificity" is not so much erased by the fetish as it is constituted with it (156).[20] That is, the woman equipped with a dildo is neither a "failed man" nor properly a

"woman" but something else that obliterates all notions that sex and gender are pure and fixed, male or female, on the Shakespearean stage. In fact, psychoanalytic theories of fetish, despite their ostensible ambivalence to important concerns of feminist and queer politics, can provide a distinct structural model by which to understand not only the transitional functions of dildos in early modern England but also the dynamic permutations of sex and gender in *Othello*. The remainder of this chapter configures a concept of transitional sex—specifically Desdemona's—with reference not to Freud's but to D.W. Winnicott's theory of fetish and transitional phenomena: intermediary processes through which an individual comes to terms with external reality through interactions with a particular and very personal thing, referred to by Winnicott as a "transitional object." My intention is to repurpose Winnicott's theory of infantile development to a more capacious understanding of sexual transition that occurs in cooperation with an object.

Most infants, he argues, first differentiate "inner reality" from "external life" through a primary relationship with an outside object.[21] He tells us that the object of choice is typically a fabric—a blanket, napkin, or even a handkerchief—frequently "held and sucked" (5). Thinking in-between a binarized psychosomatic "inside" and "outside," he offers a third alternative akin to Melanie Klein's theorization of the "internal object": an experiential process through which a subject transitions from one psychic state to another, an ongoing task of "making do" with the transitional object as s/he engages "the perpetual human task of keeping inner and outer reality separate but interrelated" (3). He describes this interlacing of self and other as an act of weaving, human and thing spun together in psychosomatic development. Furthermore, he adds, "The transitional object

may eventually develop into a fetish and so persist as a characteristic of the adult sexual life," no doubt a suggestive theoretical claim which, for my purposes, indicates that transitional phenomena might be brought to bear upon a theorization of transitional sex (12, 54).

Transitioning with a transitional object, therefore, might be thought outside developmental psychoanalysis and extended to discussions of the psychosomatic as well as cultural processes of materializing a gender incongruent with one's birth sex. Transpersons express their gendered and sexual identities in a variety of ways. Some may prefer body modification through surgical, pharmacological, or artistic means. Others favor fashion, cosmetics, performance, or any combination of the above. The paraphernalia with which a person transitions could be considered transitional in that these things visually, materially and cognitively move the body as well as conceptions of self across gendered and/or sexual boundaries. In this regard, dildos are transitional objects that serve a very real and practical function for transitioning people. For example, transmen might "pack" their pants to simulate the appearance of a penis, make use of a stand-to-pee device for urination, or adhere an oblong object for sexual penetration. For many, a dildo accomplishes the task of transitioning. For Desdemona, it is her handkerchief. Not only does it transition her from a brave rebellion against her father in her decision to "love the Moor to live with him" to an endangered state of fatal precarity with the object's disappearance, but it also enables her gendered and performative movement from feminine to masculine and back again. The handkerchief achieves a transitional ontology in that it sometimes integrates with her body and *becomes* her—in both senses of the word—while at others, never exceeds its most basic thinghood.[22]

Desdemona's transition, however, isn't just about "making do" with her sex; it's also about survival. The most pivotal moment in the play occurs between two brackets, a mere editorial stage direction—"[*She drops her handkerchief*]" (3.3.291)—when her fate is decided and when, as Bartels commiserates, she "seems to fall apart at the seams and slide into fatal passivity" (427). Displacing erotic codes from within a dominant system of masculine intelligibility, Shakespeare's "fair warrior" encounters violence because of her *perceived* sex. Lost and found by Iago, the handkerchief no longer empowers Desdemona's transition but instead "speaks against her" innocence (3.4.441). Written over with Iago's false narrative of adulterous sex, the palimpsestic fabric issues her death penalty. A number of archival sources confirm that dildos "emerged into legal visibility in the early modern period" and that "women could be tried for sodomy" under the penalty of death (Blake, 135).[23] In such cases, the accused was frequently a crossed-dressed woman allegedly "taking the place of" a man with another woman. Perhaps the most recognizable of these is the brief account of the transvestite from Chaumont-en-Bassigni in Michel de Montaigne's travel journal and brought to our attention by Stephen Greenblatt:

> In September 1580, as he passed through a small French town on his way to Switzerland and Italy, Montaigne was told an unusual story that he duly recorded in his travel journal. It seems that seven or eight girls from a place called Chaumont-en-Bassigni plotted together "to dress up as male and thus continue their life in the world." One of them set up as a weaver, "a well-disposed young man who made friends with everybody," and moved to a village called Montier-en-Der. There the weaver fell in love

> with a woman, courted her, and married. The couple lived together for four or five months, to the wife's satisfaction, "so they say." But then, Montaigne reports, the tranvestite was recognized by someone from Chaumont; "the matter was brought to justice, and she was condemned to be hanged, which she said she would rather undergo than return to a girl's status, and she was hanged for using illicit devices to supply her defect in sex." (66)

Greenblatt argues that the transvestite was not prosecuted for "deception but for the use of prohibited sexual devices, devices that enable a woman to take the part of a man" (67). The crime was not constituted by same-sex desire but rather by bodily enhancement beyond legally appropriate bounds. Desdemona's case, however, seems different. Transitioning, for our "fair warrior," is about surviving the dangers of queer womanhood in Shakespeare's Venice but, in the end, coming undone. The very real and present danger of transitioning is the misreading or the very *inability to read* in the first place transitional sex.

The significance of the uncertainties that attach to Desdemona's handkerchief might become clearer when we bear in mind another historical moment in which a handkerchief might signify a dildo. Popularized during the 1970s in urban centers across the United States, especially in San Francisco's Castro District, the handkerchief ("hanky") code was a system employed by queer men and casual sex-seekers alike to signal to like-minded individuals specific sexual preferences and fetishes.[24] The handkerchief's color, pattern, and position—usually worn in the back pocket of one's blue jeans or tucked into a belt loop—served as sartorial clues to one's perverse

proclivities without having to verbalize or negotiate them in a noisy bar or through a potentially awkward encounter. Either you're into it or you're not. The code, however, is complex and requires an adequate degree of back-street literacy to decipher. For instance, a black handkerchief worn on the right identifies a "bottom" into sadomasochism, while a black and white striped handkerchief on the left indicates a preference for a black "top." A purple flannel or gingham signals a penchant for sex with a transperson and, perhaps most applicable to this chapter, a pink handkerchief for dildos. With hundreds of possible combinations, the hanky code is difficult to master and, because of its sheer plenitude, sometimes fails to precisely communicate its intended meanings. Some kinky individuals may even wear multiple handkerchiefs at once to express numerous fetishes. Due to this codified intricacy, the truth of one's sex can be lost in the fabric. At the very least, however, a handkerchief of any color, pattern, or position indicates a preference for unconventional sex, even if that sex is ultimately unknowable.

I reference the hanky code not only to link Shakespeare's handkerchief to a modern sexual subculture of handkerchiefs but also to make the point that Desdemona's dildo is not so much about "figuring out" the operations of sex and gender in *Othello* or even about discovering the "actual" dildo within the text. Rather, this is about unsettling the ways in which we approach Shakespeare's play and finding new ways to talk about sex—critical readings that admit their absolute contingency and apprehend the tantalizing elusiveness of sex on the early modern stage. Rather than confine Desdemona to the "locked house" of categorical identity, we might instead let her and her dildo "undo" our proclivities toward easy paradigms of sex and gender in our political criticism. Like

Desdemona, we as readers and meaning-makers depend on our handkerchiefs, these "trifles light as air" (3.3.325).

Works Cited

Africanus, Johannes Leo. From *A geographical historie of Africa iwrten in Arabicke and Italian by John Leo a More, born in Granada and brought up in Barbarie*. Trans. John Pory. London: George Bishop, 1600. *Race in Early Modern Europe*. 130-131.

Anonymous. "A Song." *Choyce Drollery: Songs & Sonnets. Being a Collection of Diverse Excellent Pieces of Poetry of Several Eminint Authors*. Ed. J Woodfall Ebsworth. London: Printed by J.G. for Robert Pollard, 1656.

Anonymous. *The Character of a Town-Miss*. London: Printed for Rowland Reynolds in the Strand, 1680.

Anonymous. *Monsieur Thing's Origin: or, Seignor D__o's Adventures in Britain. Secret Sexualities: A Sourcebook of 17th and 18th Century Writing*. Ed. Ian McCormick. London: Routledge, 1997. 198-202.

Bartels, Emily. "Strategies of Submission: Desdemona, the Duchess and the Assertion of Desire." *Studies in English Literature, 1500-1900* 36.2 (1996): 422-433.

Blake, Liza. "Dildos and Accessories: The Functions of Early Modern Strap-Ons." *Ornamentalism: The Art of Renaissance Accessories*. Ed. Bella Mirabella. Ann Arbor: University of Michigan Press, 2011. 130-155.

Bogost, Ian. *Alien Phenomenology, or What It's Like to Be a Thing*. Minnesota: University of Minnesota Press, 2012.

Boose, Lynda. "Othello's Handkerchief: The Recognizance and Pledge of Love." *English Literary Renaissance* 5 (1975): 360-374.

Bromley, James M. and Will Stockton. "Introduction: Figuring Early Modern Sex." *Sex before Sex*. Ed. Bromley and Stockton. Minneapolis: University of Minnesota Press, 2013. 1-23.

Butler, Judith. *Precarious Life*. New York: Verso, 2004.

Coles, Elisha. *An English dictionary explaining the difficult terms that are used in divinity, husbandry, physick, phylosophy, law, navigation, mathematicks, and other arts and sciences, containing many thousands of hard words, and proper names of places, more than are in any other English dictionary or expositor: together with the etymological derivation of them from their proper fountains, whether Hebrew, Greek, Latin, French, or any other language: in a method more comprehensive than any that is extant*. London: Peter Parker, 1677.

Coryate, Thomas. *Coryats Crudities: Hastily Gobbled Up in Five Months Travels in France, Savoy, Italy, … Switzerland &c*. London, 1611.

Dampier, William. *A new voyage round the world describing particularly the isthmus of America, several coasts and islands in the West Indies, the isles of Cape Verd, the passage by Terra del Fuego, the South Sea coasts of Chili, Peru and Mexico, the isle of Guam one of the Ladrones, Mindanao, and other Philippine and Eas-India islands near Cambodia, China, Formosa, Luconia, Celebes, &c., New Holland, Sumatra, Niobar Isle, the Cape of Good Hope, and Santa Hellena: their soil, rivers, harbours, plants, fruits, animals, and inhabitants: their customs, religion government, trade &c*. London: Printed for James Knapton, 1697.

DiGangi, Mario. *The Homoerotics of Early Modern Drama*. Cambridge: Cambridge University Press, 1997.

Elias, Norbert. *The Civilizing Process*. Trans. Edmund Jephcott. Vol. 1. *The History of Manners*. New York: Pantheon, 1978.

Findlay, Heather. "Freud's 'Fetishism' and the Lesbian Dildo Debates." *Feminist Studies* 18.3 (1992): 563-579.

Fisher, Will. *Materializing Gender in Early Modern English Literature and Culture*. Cambridge: Cambridge University Press, 2002.

Fleming, Juliet. *Graffiti and the Writing Arts of Early Modern England*. Philadelphia: University of Pennsylvania Press, 2001.

Florio, John. *A worlde of wordes, or most copious, and exact dictionarie in Italian and English*. London: A. Hatfield for E. Blount, 1598.

—. *The History of Sexuality*. Trans. Robert Hurley. New York: Vintage, 1990.

Freud, Sigmund. "Fetishism." *On Sexuality*. Ed. Angel Richards. Harmondsworth: Penguin, 1997. 351-357.

Fryer, John. "Shews the Pleasure and the Product of the Woods: The People bewitched to Idolatry; the Sottishness of the Atheist. I am sent for to Bombaim; after some endeavors to go thither, and some time spent at Goa, am forced to Winter at Carwar, and then I return to Surat." *A new account of East-India and Persia, in eight letters being nine years travels begun in 1672 and finished 1681: containing observations made of the moral, natural and artifial estate of those countries*. London, 1698. Web. *Early English Books Online*. 3 October 2014.

Green, André. *The Tragic Effect: The Oedipus Complex in Tragedy*. Trans. Alan Sheridan. Cambridge: Cambridge University Press, 1979.

Greenblatt, Stephen. “Fiction and Friction.” *Shakespearean Negotiations: The Circulation of Social Energy in Renaissance England*. Berkeley: University of California Press, 1989. 66-93.

Harris, Jonathan Gil. *Untimely Matter in the Time of Shakespeare*. Philadelphia: University of Pennsylvania Press, 2009.

Herodotus, *The famous hystory of Herodotus*. London: Thomas Marshe, 1584. *Race in Early Modern Europe*. 78-79.

Holmer, Joan Ozark. “Desdemona, Womman Warrior: ‘O, these men, these men!’ (4.3.59).” *Medieval and Renaissance Drama in England* 17 (2005): 132-164.

Jonson, Ben. *The Alchemist*. *Ben Jonson's Plays and Masques*. Ed. Richard Harp. New York: Norton, 2001. 176-274.

Kearney, James. “The Book and the Fetish: The Materiality of Prospero's Text.” *Journal of Medieval & Early Modern Studies* 32.3 (2002): 434-468.

Korda, Natasha. *Shakespeare’s Domestic Economies*. Philadelphia: University of Pennsylvania Press, 2002.

Loomba, Ania, and Jonathan Burton. “Introduction.” *Race in Early Modern England: A Documentary Companion*. Ed. Loomba and Burton. New York: Palgrave, 2007. 1-36.

Marston, John. *Antonio and Mellida*. Ed. Keith Sturgess. New York: Oxford University Press, 1997.

Middleton, Thomas. *A Chaste Maid in Cheapside*, *Renaissance Drama: An Anthology of Plays and Entertainments*. Ed. Arthur Kinney. Malden: Blackwell, 2005. 589-636.

Morley, Thomas. “Will You Buy a Fine Dog?”. *Ayres or Little Short Songs, Book I*. London: H. Ballard for William Barley, 1600).

Nashe, Thomas. “The choise of valentines.” *The Penguin Book of Renaissance Verse: 1509-1659*. Ed. H.R. Woudhuysen. London: Penguin, 1992. 253-263.

Newman, Karen. “‘And Wash the Ethop white’: femininity and the monstrous in *Othello*." *Shakespeare Reproduced: The Text in history and ideology*. Ed. Jean Howard and Marion O'Conner. New York: Routledge, 1987. 143-162. Print.

—. *Cultural Capitals: Early Modern London and Paris*. Princeton: Princeton University Press, 2007.

Parker, Patricia. "Africa, *Othello* and bringing to light." *Women, "Race," and Writing in the Early Modern Period*. Ed. Margo Hendricks and Parker. New York: Routledge, 1994. 84-100.

Paster, Gail Kern. *The Body Embarrassed: Drama and the Discipline of Shame in Early Modern England*. Ithaca: Cornell University Press, 1993.

Pietz, William. "The Problem of Fetish, I." *Res* 9 (1985)" 5-17.

Price, Lawrence. *The batchelors feast, or, The difference betwixt, a single life and a double: being the batchelors pleasure, and the married mans trouble, to a pleasant new tune called, With a hie dildo, dill*. London: Printed for I Wright the younger, 1636.

Purchas, Samuel. *Purchas his Pilgrimage*. London, 1613.

Rudnytsky, Peter. "The Purloined Handkerchief in *Othello*." *The Psychoanalytic Study of Literature*. Eds. Joseph Reppen and Maurice Charney. Hillsdale: Analytic Press, 1985. 169-190.

Sandys, George. From *A Relation of a journey begun an: Dom: 1610. Purchas his Pilgrimes in Five Bookes*. London: William Stansby, 1625. *Race in Early Modern Europe*. 899-900. Print.

Schwarz, Kathryn. *Tough Love: Amazon Encounters in the English Renaissance*. Durham: Duke University Press, 2000.

Shakespeare, William. *Othello*. Ed. E.A.J. Honigmann. 3rd ed. Bloomsbury: New York. 1997.

—. *The Winter's Tale*. Ed. Stephen Orgel. New York: Oxford University Press, 1996.

Smith, Ian. "Othello's Black Handkerchief." *Shakespeare Quarterly* 64.1 (2013): 1-25.

Stallybrass, Peter. "Patriarchal Territories: The Body Enclosed." *Rewriting the Renaissance: The Discourses of Sexual Difference in Early Modern Europe*. Eds. Margaret W. Fergus, Maureen Quilligan, and Nancy J. Vickers. Chicago: Chicago University Press, 1986.

Stallybrass, and Rosalind Jones. "Fetishizing the Glove in Renaissance Europe." *Critical Inquiry* 28.1 (2001): 114-132.

Thurer, Shari L., *The End of Gender: A Psychological Autopsy*. New York: Routledge, 2005.

Traub, Valerie. *The Renaissance of Lesbianism in Early Modern England*. Cambridge: Cambridge University Press, 2002.

—. "Afterword." *Sex After Sex*. 291-303.

Winnicott, D.W., "Transitional Objects and Transitional Phenomena." *Playing and Reality*. New York: Routledge, 2005. 1-34.

Wolk-Simon, Linda. "'Rapture to the Greedy Eyes': Profane Love in the Renaissance." *Art and Love in Renaissance Italy*. Ed. Andrea Bayer. New Haven: Yale University Press, 2008. 43-58.

---

[1] "Pilot Episode," *Are You Being Served?,* BBC, Hertfordshire and London, UK. 8 Sept. 1972. *Are You Being Served?* is a BBC television sitcom, written by Jeremy Lloyd and David Croft, which aired during the 1970s and 1980s.

[2] Parker links representations of female monstrosity in travelogues, including Pory's English translation of Africanus, to scientific descriptions of women's "hidden" sexuality in anatomy texts, such as Paré's, and Crooke's, to an incipient colonial desire to "discover" and thereby possess secret worlds beyond the European horizon.

[3] For more on the syndic, see Michel Foucault, *Discipline and Punish: The Birth of the Prison*, Trans. Alan Sheridan (New York: Vintage, 1995)

[4] For more on the early modern female body as a site for containment, see Peter Stallybrass, "Patriarchal Territories: The Body Enclosed.," *Rewriting the Renaissance: The Discourses of Sexual Difference in Early Modern Europe*, Eds. Margaret W. Ferguson, Maureen Quilligan, and Nancy J. Vickers (Chicago: Chicago University Press, 1986)

[5] Holmer further observes, "For only one other female character in his works does Shakespearea employ the descriptive term "warrior," predictably for the Amazon Hippolyta" (132).

[6] For more on cross-dressing see Jean Howard, "Crossdressing, The Theatre, and Gender Struggle in Early Modern England," *Shakespeare Quarterly* 39 (1988) 418-440 and David Cressy, "Gender Trouble and Cross-Dressing in Early Modern England," *Journal of British Studies* 35.4 (1996): 438-465.

[7] Viola cross-dresses in order to access Orsino's all-male court, while Ganymede dons men's clothes to escape into the Forest of Arden from the tyranny of her uncle.

[8] Pietz emphasizes the ways in which the fetish complicates the boundary between person and thing. He tells us that the truth of the fetish "is experienced as a substantial movement from inside the self … into the self-limited morphology of a material object

situated in space outside" (Fetish I, 11-2). This is a crisis of the self: a singular encounter in which the identity of the self is called into question by its relation to an object exteriorized from the self. In a way, the fetish confers personhood not on the basis of individuality but on multiplicity and cooperation.

[10] During the early fifteenth century, Portuguese trading on the Cape Verde Islands and the upper Guinean coast named African worshippers *feiticeros* (later fetisseros) because they were supposedly "ruled by witchcraft … oracles and demons" (Pietz, "Fetish, It" 37). I, however, do no intend to insinuate that Othello is West African or that he once belonged to these tribal societies. Othello's origins are ambiguous as "an extravagant and wheeling stranger / Of here and everywhere" (1.1.134-5) and, as Michael Neill has points out, the term "Moor" could refer to populations from several non-European regions. For more see Neill, "'Mulattos,' 'Blacks,' and 'Indian Moors': *Othello* and Early Modern Construction of Human Difference," *Shakespeare Quarterly* 49 (1998) 361-374.

[11] Upon discovering that Desdemona has lost her handkerchief and may have violated her wedding vows, Othello characterizes her as a "[h]ot, hot, and moist … young and sweating devil," whose corporeal excess must be contained though "[m]uch castigation, [and] exercise devout" (3.4.32, 36).

[12] Blake also cites *Monsieur Thing's Origin: or, Seignor D—o's Adventures in Britain* in which the speaker insists that dildos "[c]an] spout so pleasing, betwixt wind and water, / Warm milk, or any other liquid softer" (199-200).

[13] Blake affirms that Nashe's "dildo takes on a life of its own … in that the poem seems to award an equal ontological status to the dildo and the to the woman who uses it. One is not necessarily subordinate to the other, and one does not represent the other; rather, they join in the poem as accessories in pleasure" (45).

[14] See also "The (In)Significance of Lesbian Desire in Early Modern England," *Queering the Renaissance*, ed. Jonathan Goldberg (Durham: Duke UP, 1994), 62-83. Traub performs provocative readings of dildos, tribades, and enlarged clitorises in early modern literature by way of the Derridean supplement to explore the ways in which female desires are inscribed and effaced from within a patriarchal culture that anxious about female sexuality. See especially 196-7.

[15] In *Much Ado About Nothing,* "Hey nonny, nonny" ends a verse of Balthasar's song famous for its first line, "Sigh no more ladies," (3.2.68, 60) and "hey nonino" appears as a refrain in the song "It was a lover and his lass" from *As You Like It* (5.3.15-32). See Shakespeare, *Much Ado About Nothing* and *As You Like It*, *The Complete Pelican Shakespeare,* ed. Stephen Orgel and A.R. Braunmuller (New York: Penguin, 2002). In fact, it may have been the famed Elizabethan composer and rumored Shakespearean collaborator Thomas Morley—and not Shakespeare himself—responsible for those nonnies, noninos, and dildos. Evidence points to his song "Will You Buy a Fine Dog?" (1600) which opens with a peculiar question, "Will you buy a fine dog with a hole in its

head?" He follows his comical inquiry with a series of arpeggiated "dildos" only then to insist that he "stand[s] not" on sundry trends such as "periwigs, combs, glasses, gloves, garters, girdles, busks" but instead has "other dainty tricks" like "sleek stones and potting sticks" (5-8). Morley's dildos accompany these early modern fashions and "dainty tricks" while also doubling as metrical filler to complete the measure. The dildos accessorize both the lyric and the body as stylistic choices which layer multiple possibilities for interpretation: nonsensical sound, an artificial penis, or perhaps even an *actual* penis. Morley's "dog with a hole in its head" may find its slang counterpart in zoographic metaphors for male genitalia such as "cock" or "one-eyed snake."

[16] Regarding the dildo's emergence, the former reads, "From Italy it was that first it came, / And from that country it had first its name, / But if my information is but true … To France he owes his birth" (7-9, 11). It should also be noted that the poem's dildo is personified as "Monsieur Thing," teasing the boundary between the human and the nonhuman.

[17] Other examples exist in seventeenth-century drama including Thomas Middleton's *A Chaste Maid in Cheapside* (1630) when Allwit rejoices "*La dildo, dildo la dildo, la dildo dildo de dildo*" (1.2.57) in unloading the financial burden of his family on Sir Walter in exchange for sex with his wife. His exuberant "dildos" might be chalked up to nonsensical jubilation but, as readers of Middleton's comedy are well aware, innuendo is his art. Another is Francis Beaumont and John Fletcher's *Nice Valour* (c.1615) in which the clown, Galoshio, imagines his mummified remains filling "galipots and long dildo glasses," cylindrical glassware akin to laboratory test tubes for storing mummia but also a possible pun on the glass dildo popularized by Aretino and Nashe (2.1.43). As Blake observes of another dildo in yet another English play, George Chapman's *Monsieur D'Olive* (1606), "The pleasure of the word 'dildo' comes not (or not only) from its meaning or etymology, but from its ability to occasionally not signify" (142).

[18] The other "thing" in Shakespeare's play, it goes without saying, is the African handkerchief, which Smith, in his essay "Othello's Black Handkerchief," reads as a stand-in for Othello. He writes against decades of criticism that assume the handkerchief's whiteness to argue instead for the fabric's blackness, "that is, a dark color resembling Othello's skin and not the white so often presumed by commentators to point to a series of tropes connoting Desdemona's sexuality" (16). Investigating a rich history of *mumia*, dyeing practices, and early modern stagings of race, Smith suggests that the black handkerchief is metonymic not with Desdemona's white flesh but with Othello's dark skin and that, counter to most interpretations, the textile is a "substitute for Othello," which Desdemona carries with her "[t]o kiss and to talk to" (3.3.313) as a "reminder of her black African love" (14, 20). Although Smith and I may depart on some of the finer points (as in whether the handkerchief enacts a logic of substitution or transition), I agree that the napkin also vectors Othello's corporeality, especially with regard to its matrilineal exchange from parent to child to spouse which, at some point during its transit, may signal not only Desdemona's sexual parts but also Othello's black penis, the

very "thing" responsible for satisfying Desdemona's "delight" but "poisoning" Brabantio's.

[19] The final mention of "delight" refers to Othello and comes in the Duke's farewell to Brabantio, "If virtue no delighted beauty lack / Your son-in-law is far more fair than black" (1.3.290-1). The Duke contrasts the virtuous associations of whiteness against the negative associations of blackness, in effect granting Othello an exception to his somatic color.

[20] As I've referenced several texts by Newman, I should indicate that this quotation comes from "'And Wash the Ethiop white': femininity and the monstrous in *Othello*."

[21] To this point, Winnicott explains, "Sooner or later in an infant's development there comes a tendency on the part of the infant to weave other-than-me into the personal pattern," to then qualify, "[t]o some extent these objects stand for the breast, but it is not especially this point that is under discussion" (4). It is important to note that a substitutive logic is partially at play, even if it's not Winnicott's primary focus.

[22] For a related argument, see Fisher's provocative proposal that "[t]here is, therefore, a sense in which the handkerchief in *Othello* is a "prosthesis" which both is and is not a part of the body" (54). For example, when Othello commands Desdemona to "make it a darling, like your precious eye," (3.4.68) Fisher argues, "He accords the handkerchief a kind of corporeal status by linking it symbolically" to the eye and that she treats it accordingly as if it were a body part or "false limb" (54).

[23] As far as I'm aware, there are no records of English women tried or convicted for using a dildo or strap-on; however, in her essay, Blake provides examples from Spain and France, directing us to Louis Crompton, "The Myth of Lesbian Impunity: Capital Laws from 1270 to 1791," *Journal of Homosexuality* 6 (1980-1981)" which dispelled "the myth that lesbians were considered exempt from sodomy laws in continental Europe" (148).

[24] See also Kate Bornstein, *Gender Outlaw: On men, women, and the rest of us* (New York: Rouledge, 1994) 36-37 and Lillian Faderman, *Odd Girls and Twilight Lovers: A History of Lesbian Life in Twentieth-Century America* (New York: Columbia UP, 1991) 255 and Ken Cage, *Gayle: The Language of Kinks and Queens A History of Gay Language in South Africa* (Houghton: Jacana Media, 2003) 41-4.