

INTRODUCTION

CREATURES

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Reality, whatever that may be, has been so much the rage in the rhetoric of entertainment of late that it should be no surprise if, on any given day anywhere in the world, any of us can watch what may seem the most minor dramas streamed to either the largest screens or the most personal of devices. Maybe on your watch, you see squabbling or flirting in the kitchen. Perhaps, off in the living room, you watch sleeping. Perhaps the walls are literally crawling with frenzy. Just at that moment, you might believe you're watching housewives or debutantes or roommates or spring breakers. If you're in New Orleans, you might, in fact, not be watching the latest offering by Bravo but, instead, the Audubon Butterfly Garden and Insectarium, whose Cockroach House allows viewers in the insectarium to see a host of cockroaches swarming through living, dining, and kitchen spaces. Could it be that on the tiny television, they might be watching themselves on a channel on Animal Planet, which has, at times at least, broadcast the carnival on its live cockroach cam for viewers across the globe?¹

Reality television may be a rather singular media development of the late twentieth century, one in this case that offers evidence of a seemingly limitless capacity to create entertainment out of a perverse

combination of banality and surveillance. But the cockroach cam is old news with respect to human fascination with insects, from which two desires rise to the fore. The first, not surprisingly, is the desire to observe, which early modern European entomologists avidly displayed, from the fieldwork of natural historians to the proponents of early microscopy to the fantasy, later achieved, of observation hives that allowed the workings of the apian world to be transparent to a viewer. The second desire is more complex, since it reveals a contradictory set of feelings about human entanglements with insect life. Do we call it a kind of anthropomorphism when we see insects placed in a constructed human environment, scaled down for insect proportions? Is it a way of cheekily offering these lesser living creatures the benefits of human technology? Does it also stage—in the safe confines of an environment entirely of human making—an age-old fear of insect invasion, one more typically imagined with respect to attacking swarms? Or does this cockroach house suggest insect resilience in the face of disaster, be it nuclear or ecological? Is it such a stretch to imagine that the cockroaches and their insectoid siblings very well might inherit the earth and populate “the world without us”?²

In some sense, it seems fair to say that *Lesser Living Creatures of the Renaissance* was born of both a similar fascination and a resulting conviction that from tiny creatures such massive considerations arise. Insects might be among the very many that did not enjoy a Renaissance amid the purported rebirth of learning, although insects were quite central to the rebirth of natural history, as works by Aristotle and Pliny were translated, debated, corrected, and continued in early modernity. Even as scholars have veered sharply away, understandably, from the portentous civilization-building language of earlier scholarly generations, it is hard to imagine human civilization in any era without also understanding the instrumental role that insects have played in the vast fields of the imagination and in every practical corner of early modern England. What then might we say about the seemingly omnipresent and yet also frequently unremarked creatures: the bees and the silkworms, the ants and the beetles, the worms and the water bugs, the termites and the scorpions, the spiders and the flies, the gnats and the butterflies, the wasps and the locusts and the maggots? And what might we say of stinging and of glowing, of swarming and of creeping, of scale and of polity, of industry and of pestilence, of pollination and of

infestation? Even as successive waves of attention to ecology and creaturely life emerged in early modern studies, the figures Thomas Moffett called “Lesser Living Creatures” were scarcely troubled. How much more alluring were monsters just a decade or so before. How much more alluring dogs, sheep, and cows seemed to the early proponents of attention to what is of late called nonhuman life. And they are still fascinating, genuinely so—the dogs, sheep, and cows that seemed to enjoy a renaissance precisely because they sit squarely within familiar categories like “companion animal” or “livestock” or even “pastoral creature.” Consequently, what concepts and actions, what forms of life, locomotion, and consumption have we insufficiently considered?

Lesser Living Creatures of the Renaissance represents the first major effort to think comprehensively in early modern England about what we might now call insect life. This is by no means, however, the first effort to understand earlier histories of insect life and the human fascination with life-forms that seemed at times tantalizingly proximate to and at others strikingly distant from the human. The essays in this book represent the latest chapter of this long fascination and are designed to augment existing work while also redressing an imbalance created by the greater charisma of certain (and mostly noninsectoid) creatures. Readers may indeed peruse the critical bibliographies in both volumes for a sense of the history of attention to insects and the most recent approaches. These two volumes of essays that constitute *Lesser Living Creatures of the Renaissance* follow two distinct, if overlapping, logics: creatures, on the one hand, and concepts, on the other. In addition, although the chapters in this book range widely throughout the literature and cultures of early modern England, with some tendrils of affiliation with continental Europe, the two volumes also address what is less an oversight than an underemphasis not only on insects but also on influential insect texts like Moffett’s *The Theater of Insects: or, Lesser Living Creatures*, which was outshone by Edward Topsell’s impressive *The Historie of Four-Footed Beasts*, which appeared in 1607 and was soon followed by *The Historie of Serpents* in 1608. The two were published together in 1658 as *The Historie of Four-Footed Beastes and Serpents*, with a new third volume described as an addition: “whereunto is now added, *The theater of insects, or, Lesser living creatures by T. Muffet.*”³ The incorporation of Moffett’s 1634 *Insectorum sive Minimorum Animalium Theatrum* simultaneously enshrined and overshadowed the

insect world at the very moment when Topsell became top dog, so to speak, in English natural history.

Thomas Moffett: Life and Works

“Ever famous” is how the title page of the 1655 *Healths Improvement* refers to its author, Thomas Moffett. Yet Christopher Bennett, who “corrected and enlarged” Moffett’s text for that edition, claimed his project was to “raise our Author out of the dust, and long oblivion.”⁴ Moreover, Victor Houlston concludes his entry on this physician and natural historian in the *Dictionary of Literary Biography: Sixteenth-Century British Nondramatic Writers* with the rather ignominious dismissal that “apart from Shakespearean source-hunters, literary critics have largely ignored his work.”⁵ In spite of intimations of Moffett’s oblivion, Bennett finds, as do we, “so much Life and Pulse in his dead Works, that it had not been charity in me to let him dye outright.”⁶ History has been kinder to Topsell, at least of late. And yet what is missed in the neglect of Moffett and his writing is a series of edifying obsessions and the demonstration of a series of core principles and practices of natural history in an age in which long-standing forms of humanistic inquiry commingle with the impulse of the age of the new science. Moffett’s *The Silkwormes and Their Flies* appeared in 1599 authored by “T. M. a Countrie Farmar, and an Apprentice in Physicke,” announcing not only his devotion to medicine but also his fascination with the insect world (and inducing Bruce Boehrer to designate Moffett the “silkworm laureate.”⁷ Silkworms, to which were attached great interest and financial aspiration, form the basis of a work Houlston calls “the first Virgilian georgic poem” and yet might also properly be understood in the context of the late sixteenth-century craze for Ovidian epyllion. Indeed, Katherine Craik has argued that this work represents a complex intervention, as “Moffat responds to both the establishment of an English silk industry, and to Renaissance representations of literary authority.”⁸

For our purposes here, Moffett was most importantly the author of *Theatrum Insectorum*, or *The Theater of Insects*, but his publishing life witnessed a wide range of interests. Based on a lifelong devotion to medical practice was *Healths Improvement, or, Rules Comprizing and*

Discovering the Nature, Method, and Manner of Preparing All Sorts of Food Used in This Nation, which, like *Theatrum Insectorum*, never appeared in print in his lifetime. *Healths Improvement* appears to be a translation of Moffett's much earlier *De Jure et Praestantia Chemicorum Medicamentorum*, which was published in Frankfurt in 1584. The aim of that text was to consider diet, which Moffett defines as "an orderly and due course observed in the use of bodily nourishments, for the preservation, recovery or continuance of the health of mankind."⁹ Moffett not only defines and discusses diet but considers the impacts and uses of various foods—meats, eggs, fish, fruit—on health and constitution.

The *Theater of Insects* is as fascinating as it is vexing. Although it is celebrated under the name of the "ever famous" Moffett, it offers a veritable conundrum of authorial identity and legitimacy. Monique Bourque lucidly summarizes the confounding situation:

The work began as the notes of Thomas Penny, a botanist and student of famed encyclopedist Conrad Gesner; Penny collected material on insects from classical Greek and Roman writers, from naturalists including Gesner and Wotton, and included his own observations. The manuscript was saved after Penny's death by Moffett, who compiled and edited Penny's notes, added to them from his own observations and materials, completed the work in 1589–1590, and died in 1604 before the book could be published. The book was not brought out until some thirty years after Moffett's death, and then appeared with an introduction by physician Sir Theodore Mayerne, whose effect on the text itself is unclear, but who purchased the manuscript from Moffett's apothecary.¹⁰

Thus, although *Lesser Living Creatures of the Renaissance* directs attention to Moffett, when we read his *Theater of Insects*, we can only conclude that our author, whether he is "ever famous" or easily forgotten, constitutes a many-headed multitude. Dare we even call the *Theater of Insects* a swarm?

Theater of Insects is often viewed as a work of natural history, but as Bruce Boehrer notes, it "nonetheless displays qualities more typically identified nowadays with mythopoeic discourse: a posture of reliance

upon literary authority, frequent allusions to versified and fictional sources, a preoccupation with matters we would now consider sociolinguistic rather than scientific in character.”

Of Insects and Critical Turns

Scholars may have never been more fond of the notion of the critical turn than they are just now, so much so that one wonders if all this turning might in fact leave us turning in circles. Certainly the great burst of work across disciplines and periods on the relationship between humans and other animals, so-called animal studies, has served as a basis and even an inspiration for a book such as this one. In part, this arises from the sense that taking creaturely life seriously would require a broader sensibility—one that finds interest and importance not only in the complex forms of human life, which can only be understood dialectically in relation to other creatures and ecologies, but also in the specificities of creatures that have a definitive impact on formations and deformations of the so-called human. Some years deep into this animal turn, disaffection with a limited range of creatures—and the limitations of even capacious terms like *animal* or *beast*—has resulted in an expansion of what deserves attention as creaturely life. Thus, following hard upon the “animal turn” has been what we might call a vegetative turn or what some call critical plant studies.¹¹ The sentiment “if not animals, why not plants, if plants, why not insects” makes a certain sense; it is also the case that not only does the fascination with insects predate recent critical trends by many centuries (arguably millennia) but that the assimilation of all that is purportedly “not human” to some overarching category, as, for instance, in Richard Grusin’s edited collection *The Nonhuman Turn*, may unintentionally homogenize.¹²

In following across genres and disciplines a millennia-spanning fascination with what we now call insects, *Lesser Living Creatures of the Renaissance* joins an initial and still few studies of import. More useful, perhaps, than a description of every article published on insects in recent decades is, then, a conversation about broader trends in approaching the cultural life of insects. These two volumes follow a burst of invigorating work in early modern natural history that moves far beyond Keith Thomas’s still influential *Man and the Natural World*:

Changing Attitudes in England 1500–1800 (1983), from Paula Findlen’s *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (1996) to Brian Ogilvie’s landmark *The Science of Describing: Natural History in Renaissance Europe* (2008). And while conversations about insect life were part of these larger conversations about the stakes of knowledge, observation, and the natural world, insects offer singular worlds of their own, which scholars have considered in a variety of ways.

Some studies approach insects as what early modern writers might have called an anthology of the book of nature, such as, for example, Eric C. Brown’s important edited collection, *Insect Poetics* (2006), which considers a range of insects from classical epic to contemporary novels. Other studies offer historically embedded accounts of insects in particular eras, such as Janice Neri’s recent art-historical survey, *The Insect and the Image: Visualizing Nature in Early Modern Europe, 1500–1700*. Neri provides the first account of how insect life became subject to study through the development of a “specimen logic,” which required protocols of visualization that “allowed [early modern natural historians] to construct themselves as the gatekeepers to a strange and fascinating new world.”¹³ Marisa Anne Bass’s recent *Insect Artifice* (2019) advances the art-historical examination of the legacies traced in these volumes by considering illustrator and miniaturist Joris Hufnagel’s *Four Elements* in an era of religious and political upheaval.¹⁴ Janelle Schwartz’s *Worm Work: Recasting Romanticism* (2012), too, follows the fortunes of vermiculture as it comes to redefine Romanticism. By placing literary creation in dialogue with natural history, Schwartz reveals “how these lower organisms became an instrumental paradox for the Romantics’ viable representations of the natural world.”¹⁵ Unlike studies structured by historical eras, Jussi Parikka’s *Insect Media: An Archaeology of Media and Technology* (2010) considers insects not from the vantage point of media theory but from “the powers of insects as media in themselves,” and thus he attempts “not to write a linear history of insects and media but to offer some key case studies, all of which address a transposition between insects (and other simple forms of life) and media technologies.”¹⁶ *Lesser Living Creatures of the Renaissance* joins this early work in weaving together these various approaches to fascinating, diminutive creatures, considering insects as history, as theory, and as media all at once.

Of Charisma and Creatures

Max Weber describes “charismatic authority” as “a certain quality of an individual personality by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers or qualities. These are such as are not accessible to the ordinary person, but are regarded as of divine origin or as exemplary, and on the basis of them the individual concerned is treated as a leader.”¹⁷ Weber was interested in those figures (shamans, berserkers, and prophets are some of his examples) who seemed marked by the divine and thus offer a model for those who possessed some greater share of political authority by virtue of the force of charisma, or the power to inspire enthusiasm. A leader, then, is one who stirs the crowd and incites devotion. As Weber puts it, “The corporate group which is subject to charismatic authority is based on an emotional form of communal relationship.”¹⁸ In Weber’s tripartite scheme, charismatic authority remains the most revolutionary form of authority, always capable of threatening the parameters of traditional or rational authority inasmuch as it engages intense emotional investment.

For the most part, the implications of Weber’s account of mystical authority have rarely concerned the world of nonhuman creatures. The charisma of creatures seems very much to have an impact on scientific deliberations. A column in the *Economist* refers to an increase in “species” or “taxonomic inflation” as what were once subspecies become elevated to species for what we might call popular or political, rather than scientific or taxonomic, reasons: “One reason for this taxonomic inflation is that the idea of a species becoming extinct is easy to grasp, and thus easy to make laws about. Subspecies just do not carry as much political clout. The other is that upgrading subspecies into species simultaneously increases the number of rare species (by fragmenting populations) and augments the biodiversity of a piece of habitat and thus its claim for protection.”¹⁹ Even more noticeable would be the palpably economic valences of charismatic megafauna. While scientists may indeed debate how much popular or public appeal contributes to, say, the list of endangered species, organizations (and corporations) literally bank on certain species: dolphins, whales, pandas, and polar bears, at a minimum, and you likely have your own personal list.

With respect to the study of creaturely life in Renaissance England and Europe, the charisma of creatures has had a series of impacts—some

quite beneficial, some quite ambivalent. On the one hand, the animal has had no shortage of admirers in the study of the era, often motivated by an interest in what Topsell referred to as “Four-Footed Beasts.” Leading the way have been a range of familiar, domestic animals from husbandry animals (such as sheep and cattle) to domestic animals or pets (such as dogs and cats), to animals associated with ventry or hunting (such as deer, foxes, and boars), to exotic animals (such as tigers, apes, and elephants). One consequence of the charisma of the animal—and of these animals in particular—has been the extraordinary proliferation of attention to many varieties of creaturely life. And yet some animals are clearly more equal than others, a proposition even more true for insect life.

Lesser Living Creatures of the Renaissance attempts to redirect the charisma of creatures and, in so doing, to redress a series of imbalances that privilege familiar animals seemingly more powerfully linked to humans through a combination of scale, utility, and affect even as insect life remains more intimately interspersed and entwined with human life. There is, of course, a risk of merely recapitulating canons of valuation. And to be sure, within the world of lesser living creatures, some insects also seem more equal than others, as some creatures not surprisingly rise to the fore along with unexpected claimants. Bees were sovereign creatures, master metaphors, and powerful exemplars, subject to perhaps more treatises than any other, given the powerful connections between apian and human life. Pity the poor creatures who did not make an appearance, for example, in Samuel Purchas’s *Theatre of Politicall Flying-Insects* (1657), which takes up bees to the exclusion of all others. While ants, gnats, and fleas swarm with predictable regularity in literary, cultural, and natural history texts, the urgencies of transatlantic commerce and trade have elevated the silkworm as an object of attention in a range of treatises. Other unexpected realizations arise in following the logic of the creature as a defining rubric, as do the chapters in our first volume.

What, indeed, do we learn from bees? Everything, it seems, and as Keith Botelho and Joseph Campana’s “‘Some say the bee stings’: Toward an Apian Poetics” indicates, not only did this diminutive wonder serve as the most charismatic of the creatures of the insect world, but the consistent and often extravagant adulation says something about a process of constant calibration that took place between human and bee. If, on the one hand, natural history treatises and husbandry manuals alike

aimed to articulate the best strategy for increasing the productivity and value of the hive, then on the other hand, these works simultaneously encouraged humans to take a page from the great book of nature, reading particularly chapter “B” and aligning moral life with this exemplary creature. Fascinating questions arise about what paradigm of relation best describes what happens when bee and human meet. Pet, livestock, or companion animal? Wild or domesticated? Muse or moralist? The lore on bees was familiar and iterable because it had become iconic, and yet somehow the creature was, remarkably, as multifaceted and even myriad-minded as any human.

Much of what we learn from *Lesser Living Creatures of the Renaissance* concerns what happens when other creatures seize the center stage, as in the case of Roya Biggie’s attention to “beetles” in “Beetle: Sycorax’s Beetles: Legacies of Science, the Occult, and Blackness,” which raises the recurrent question: Whence does information about the world of lesser living creatures arise? In the case of the beetle, which was, like the bee, “deemed an appropriate pedagogical tool,” Biggie considers differing accounts, from the iconic image of Albrecht Dürer to the circulation of Aesopian fables to Erasmus’s *Adages* to Moffett’s *Theater of Insects*, and finally, even, to William Shakespeare’s *Cymbeline*. If the beetle was a pedagogical tool, it was so because of a core ambivalence that required decisions about valuation. Was the beetle a contemptible creature of the muck or an exemplary instance of modesty and tenacity? As Biggie makes clear, the complex and contradictory nature of beetle lore of the era forces a consideration of both just what is “lesser” about lesser living creatures and what different kinds of information—fable, lore, or observation—imply about such creatures.

What do we expect from the exquisite and diaphanous butterflies and moths? A sweep of glorious wing, perhaps. Indeed, just as the butterfly enters, stage right, to enhance a distinction between the beautiful and the ugly insects, the gorgeous architecture of bees and the dung-oriented life of the beetle, Chris Barrett complicates this portrait by finding, unexpectedly, in butterflies “a ghastly history of violence” and “narrative innovation.” Perhaps it should be no surprise that creatures associated with transformation would signify more complexly than one might initially imagine, and yet as Barrett ranges from Moffett to Edmund Spenser and beyond, it becomes apparent that the bee was not the only insect associated with literary production, as in the

oft-cited Senecan adage, *Apes debemus imitari*. And yet, while writers were to imitate the bee by consulting and digesting the authors of the past just as the bee draws from many flowers, the butterfly intervenes more directly in being associated with “story-retelling” and “rewriting.” Bees collect and digest but butterflies revise, as in the case of Spenser’s “Muipotmos,” which transforms Ovid’s Arachne narrative in a manner not adequately described by the language of imitation or influence. As we watch, the butterfly “folds its codex wings and seeks even the revision of world seething with minute minions of beauty.”

As literary, as iconic, and as proverbial as were so many insects, they remain elusive, as much makers of the literary tradition as figures within it. So it was for bees and butterflies and so too it was, as Gary Bouchard argues, for the charismatically uncharismatic flea, a creature, he argues, capable of “a virtuoso display of equivocation.” Long before Moffett or even the equally virtuosic John Donne put pen to page, the flea was present in literary tradition through the strange but notable strand of erotic “flea” poetry, which culminated in *La Puce de Madame de Roche* (1582), a multilingual collection of dozens of such poems. Thus, what remains remarkable about Donne’s oft-taught poem “The Flea” is not that a flea appeared in a poem or that it appeared in an erotic exchange but, rather, that Donne parlays the allure of the flea, transforming it into a creature not merely of erotic titillation but of “marital unity.” Indeed, as Bouchard considers Donne’s masterful redeployment of what was already a common erotic trope, he plumbs the depths of meaning packed into this tiny creature, the most surprising of which concern not love or sex but devotion. To trace decades of this poem’s reception is to realize that the ambiguity of the poem might equally concern questions of theology and confessional identity. Donne’s singularity comes, then, not from the choice of writing a poem about a flea but in “an astounding leap from its smutty origins in Sergianus’s *Carmen de Pulice* to the bare flesh of Donne’s lady, where it became a dramatic, violent, and ambiguous sacrifice on her purpled nail.”

What a difference truncation makes, which is to say what a difference there is between “butterfly” and “flies.” Insects are, of course, creatures of segmentation, as etymology teaches (*entoma*, segment) and as our contributor Eric C. Brown reminds us in his introduction to *Insect Poetics*: “For the idea of the ‘insect,’ we are indebted to Aristotle, who first categorized these creatures as ‘entoma’ (whence ‘entomology’),

stressing their existence in sections,” any one of which segments, he believed, would naturally persist on its own if severed from the whole.²⁰ Yet in “Of Flies: The Insect Mind of Shakespeare’s *Titus Andronicus*,” Perry Guevera aligns the segmentation at the heart of the insects with the violent disarticulation at the heart of revenge tragedy. Flies are, he argues, “figures of killability, animal bodies made available for death,” bodies that remind us how available for killing are human bodies on the Renaissance stage. It may have been Gloucester who is forced to concede, “As flies to wanton boys are we to th’gods / They kill us for their sport.”²¹ But in *Titus Andronicus*, this drama of killability had already reached an apex, as Marcus’s killing of a fly incites a reflection on justice and revenge. And yet to consider *Titus Andronicus* from the point of view of cognitive ecology and neurobiology is to wonder if the fly is not only a figure of human vulnerability but something much more intimate. “The very possibility of insect emotion,” Guevera argues, “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 animal-other’s cognition.”

Vertigo is often how insects are apprehended. How odd, for example, that Moffett would lavish attention on “the gnat” given that he described it, in a judgment that seems to contradict the very premise of regarding lesser living creatures, to be “a little Insect not worth speaking of.” And yet, as Steven Swarbrick argues in “The Clamor of Things: Moffett’s Gnats, Spenser’s *Complaints*,” Moffett was not the only one to note an apparent paradox between the insignificance of the gnat and its irritating capacity for noise. Indeed, it is the very idea of clamor that brings together the science of insects and the art of the complaint, both of which witness the dissolution of the subject into varieties of sensation and life utterly confounding to what might be called, only aspirationally, the human. Swarbrick takes his reader on a dizzying tour of the tiny inhumanities out of which speaking subjects emerge, reminding us that it does not take a natural-historical treatise to, as the complaint teaches, “adopt an inhuman perception” and realize that all art “is an art of dying,” pointing to what is beyond not only the human but life as we tend to understand it.

Political was one term used to describe an array of insects. Kathryn Vomero Santos demonstrates in “Antimonarchal Locusts: Translating

the Grasshopper in the Aftermath of the English Civil Wars,” it was not only the majestic bee but also the fascinating insectoid shifter—grasshopper into locust—that could bear the impress of the political. In the wake of the civil wars, a time of extraordinary national stress, the figure of the solitary, sovereign grasshopper comes to be replaced by the terrifying specter of “swarms of ‘antimonarchal locusts.’” Santos traces the long impact of John Ogilby’s retelling of the Aesopian fable of the ant and the grasshopper and the various translations of the Greek term *tettix*. “By choosing to transform the Greek cicada into the English grasshopper,” Santos argues, “the royalist poets may have been acknowledging the ways in which the word ‘grasshopper’ could also be read as ‘locust,’ bringing together two culturally opposite meanings in the same word.” Thus, the grasshopper-locust astonishes in its vertiginous transformations. It is the nexus of various kinds of knowledge—natural-historical, biblical, Aesopian, political-theoretical—that Biggie similarly traces around the beetle. If the butterfly was a catalyst of revision, the locust, like the flea, founds a literary trend—in this case, the many “royalist grasshopper imitations circulating in print in the 1640s and 1650s.”

Admiration is one consequence of charisma. Of course, most often charisma results from what is compellingly attractive. Beauty, symmetry, and similitude all constitute charismatic lures, as butterflies and bees indicate. And yet, as Emily King demonstrates in “Mutable Maggots: Corruption, Generation, and Literary Legacy,” maggots had a lure, if not precisely an appeal, even though “their ubiquity alone rarely qualifies them as suitable companions” and “they do not readily avail themselves to anthropomorphism.” Although they existed outside the charmed circle of aesthetically appealing insects, beneath their repugnance lurks a fascinating if “grotesque mobility.” They not only confound dividing lines between species, but their proximity to corruption seems to denature all boundaries, as death, the great maker of indistinction, draws all into its shadowy world. As signifiers of oblivion, maggots seem to motivate a reparative, literary response to “death’s inevitable annihilation.” Crossing from the theater of insects to the theater of tragedy, King finds “worms and maggots in libraries instead of graves,” threatening the very possibility of cultural memory and meaning. And yet perhaps corruption may lead to generation. “Maggots effect radical transformations,” King insists, perhaps nowhere more

exquisitely rendered than in *The Tempest's* famous sea change, in which eyes become pearls and thus, perhaps, see the world differently.

Many of the lesser living creatures come into focus in distinction not just to the human but also to other insects. Most particularly, the charismatic bee is that creature with and against which so many others are juxtaposed. Like the bee, if unlike the maggot, the ant, or pismire, was seen to be a creature of virtuous work. And although the ant may not yet have evoked the kind of fascination typical of later eras, what Edward Bury considered “the diligence of ants” was already legendary. And yet ants were also warriors, tending at times to havoc. Shannon Kelley considers this “equivocal insect,” illuminating the evolution of ants from earlier bestiary traditions to natural history tracts such as *The Theater of Insects*. If, as Donovan Sherman will argue, the wasp is a kind of ant-bee, in Kelley’s chapter the ant serves as a kind of alter-bee: virtuous but violent, political but lacking in a central ruler. “Two points surface repeatedly about pismire government,” Kelley argues. “The citizen-ant’s identity is indistinguishable from that of the entire commonwealth, and the citizen-ant lacks any oversight” whatsoever. Despite these divergences from the bee, the dominant strands of figuration depict the pismire as a creature of contented labor.

As Eric C. Brown argues in “Flame of Fire Beaten: Scorpions in and out of Mind,” the scorpion comes into clarity as a terrifying alternative to the bee. The very title page of *The Theater of Insects* juxtaposes these creatures, “the admirable giving away to an image most readers would have associated with things dangerous, even diabolical.” And yet Brown points out a larger truth in his fascinating essay that “Moffett’s larger project in *Theater of Insects* is always a redemptive one.” Even scorpions, then, are part of the glorious book of nature. Moffett’s age read that book for what we now call fact and science, but the fascinating appeal of the scorpion, relative to some of the other insects represented here, is that it is “an especially *imagined* creature for English readers—one largely exotic and steeped in legend and fable,” and thus “the scorpion comes to be associated with infinitude, inscrutability, and insubstantiality.” That this creature took on a phantasmatic, even psychic life in a climate not prone to scorpions might figure “the limitless quality of a tortured mind” as in *Macbeth* or the terrors of mortality in Milton’s *Paradise Lost*.

Although perhaps no insect could displace the bee as the sovereign insect, the silkworm, although also associated with luxury, excited

early modern thinkers as it offered the promise of parlaying the virtuous industry of insects into a new English industry woven of strands of silk stretching to Virginia and back. Or so Bruce Boehrer argues in “Thomas Moffett, Silkworm Laureate,” which considers Moffett’s writings about silkworms in both *The Theater of Insects* and his poem *The Silkwormes and Their Flies*, the tantalizing possibilities of an ultimately canceled royal visit to Wiltshire in 1599 during which Moffett hoped to advocate for “the establishment of an English silk industry.” Boehrer reads Moffett’s natural history with Moffett’s poetry to realize that not only do these writings “contravene modern disciplinary and generic boundaries,” but in doing so, they “participate in a holistic mode of relation to society and to the earth itself, a mode of relation at once cultural, economic, and political in character.” Although time and literary opinion have not been kind to Moffett’s *Silkwormes*, Boehrer clarifies the ambition of the poem, which was not merely to replicate or innovate with respect to literary predecessors but “to promote an agricultural innovation.” Moffett may be no Shakespeare, but “within a decade of Moffett’s death, domestic sericulture had become a crown project and the focus of considerable resources.” Moffett and his silkworms were, then, authors of a literary tradition of broad ambition and scope, one capable of addressing land, resources, and trade, and that we have been perhaps hitherto all too unequipped to understand and acknowledge.

Like silkworms, spiders weave captivating patterns. Unlike the luxurious products of the silkworms, on which Moffett and so many others hoped to capitalize, the awe inspired by the spider generated a spiral of fear and fascination. “What other tiny, cold-blooded creature,” Mary Baine Campbell asks in her far-reaching survey, “has generated its very own *phobia*?” And yet for all the strong omnipresence of this creature and a wide range of emotional responses, Campbell also notes “the relative paucity of treatments” across early modern disciplines of knowledge—hence, the need for what Campbell calls “The Renaissance of Spiders: Ambivalence, Beauty, Terror, Art.” In one respect at least, the spider offers another potent counterpoint to the silkworm and the bee. “The lack of a commercial use for spiders or spider silk,” she argues, “was another reason why an insect whose representation boasts such antiquity and poetic power could not always make it as a subject of natural history.” In an era of fluid interchange between what we might now refer to as relatively separate literary and scientific systems, it becomes easier to describe what Campbell sees as “the spider’s early

modern affective terrain: its elegance, beauty, frightfulness, and useful beneficence, especially its power to protect.” In poetry from John Heywood’s *Spider and Flie* to Spenser’s *Muipotmos*, the spider witnesses a strange “latency” as Campbell argues, always available as a repository of “symbolic convenience as a sometimes venomous, generally secretive, gender-ambiguous, too-many-legged creature” that “dampened interest in it . . . and helped make it relatively unpopular as a topic.” The spider is thus the paradigm of a certain human relationship to insects, which finds them everywhere and nowhere at the same time, always scuttling in and out of sight and attention.

In engaging with insects, a series of sometimes conscious and sometimes inadvertent acts of comparison and association occur. As Donovan Sherman asks, with a nod to Thomas Nagel, “What Is It Like to Be a Wasp?,” he narrows in on a core question about how we construct relationships of difference and similitude both between humans and the insect world and within the insect world. He does so by considering the vexed relationship between wasp and bee. Noting that wasps are uncannily like both bees and anti-bees, Sherman notes that “the difference between wasp and bee is distant enough to make them oppositional but proximal enough to cause aesthetic confusion.” Despite the tiny nature of those creatures—and even those differences—the consequences may be massive when considering the odd triangle created by bee, wasp, and human. “The bees,” he argues, “are like humans but do not resemble them; the wasps resemble bees but are nothing like them. At stake in evoking the wasp is the nature of what it means to be ‘like’ something at all.” Sherman confirms a perception in most of the chapters in this collection: every human effort to make meaning with and about insect life provokes a powerful countercurrent, as insects seem to remake the humans who observe them. To consider closely these relations is to apprehend paradox. “The Renaissance wasp,” Sherman argues, “invites analogy as a negation of meaning making: being like wasps is being *not* like bees; it is to be outside the limits of relationality at all.” Such an “outside” is perhaps where, despite their proximity and enmeshment with humans, insects live.

Limit cases abound in the insect world and, for Dan Brayton’s “Bugs Aquatic: Water Striders from Moffett to Marine Science,” to apprehend the odd category of the water bug is, in several respects, to consider “creatures dwelling near the limits of perception.” Such creatures offer

a challenge not only of classification but of basic perception. “How to study,” Brayton asks, “a creature too remote to see in its native habitat, too small to see except in unusual circumstances, and about which little or nothing was written?” Brayton considers, then, Moffett’s engaging response to such dilemmas, which witnesses “the triumph of observation over tradition” that Brian Ogilvie’s influential *The Science of Describing* establishes as a core premise of the early modern renaissance of natural history. So too for *The Theater of Insects*. “Nowhere in Moffett’s work,” Brayton argues, “is his commitment to the science of describing more in evidence than in his accounts of water bugs.” Perhaps, indeed, the lack of earlier natural history on aquatic insects made Moffett especially free to privilege observation. Despite occasional anthropomorphism, the precision of Moffett’s writing about this subject, Brayton argues, suggests that his “knowledge derives from direct observation, which we can only speculate involved considerable time spent in the field, in this case investigating English ponds, puddles, and waterways, as his repeated insistence on a dearth of literature on the subject suggests.” Moffett becomes, then, not merely a compiler of other people’s knowledge or a transmitter of canonical natural history but an observer and pioneer oddly ahead of his time in acknowledging and studying a wholly nonterrestrial world of “tiny lives aquatic.”

Silkworms and spiders weave, bees mellify, maggots corrupt, and scorpions terrify. But it was the property of the worm, Karen Raber argues, to burrow, and its burrowing takes it deep into the conscience. Perhaps it should be no surprise that a creature so suited to infiltrating the flesh would also permeate the mind. Raber’s “Worms of Conscience” considers how the worm constitutes “a competing agent dwelling not just alongside, but within humans themselves.” This might seem an observation driven by much more recent acknowledgment of the extent to which human bodies are made of and dependent on other life-forms, from bacteria to worms and beyond. But as Raber convincingly shows, the natural history of Moffett’s era acknowledged this premise and in doing so built on older classical and biblical traditions of the worm of conscience, which offered whispers from within: “the internal, secret promptings of morality seem to the sufferer the intercession of another entity altogether.” Raber traces this cultural commonplace from proverb and lore to theology and theater, confirming “that early moderns considered parasitical worm infestations as an internal conflict over

identity and agency.” Perhaps it should be no surprise that creatures so numerous as those of the insect world, be they flies or gnats or worms (of conscience), confirm that the human is definitively not one.

Notes

1. At the time this introduction was composed, the Animal Planet channel was, alas, offline.
2. For this influential formulation of what it is to imagine the aftermath of human extinction, see Weisman, *World Without Us*.
3. Topsell, *Historie of Four-Footed Beasts*.
4. Moffett, *Healths Improvement*, A3r.
5. Houliston, “Thomas Moffett,” 136:234.
6. Moffett, *Healths Improvement*, Biv.
7. Moffett, *Silkewormes*.
8. Craik, “These Almost Thingles Things,” 53.
9. Moffett, *Healths Improvement*, 1.
10. Bourque, “There is nothing more divine,” 141.
11. Marder has led the way on a substantial reconsideration of the philosophical tradition in a series of books, including *Plant Thinking* (2013), *The Philosopher’s Plant* (2014), and *Grafts* (2016), and Irigaray and Marder, *Through Vegetal Being* (2016). Hall argues for the personhood of vegetation in *Plants as Persons* (2011). Kohn’s *How Forests Think* (2013) departs markedly from anthropology’s focus on the human to ask what ethnographic attention to vegetation might yield. Nealon surveys this burgeoning field in *Plant Theory* (2016), while *The Language of Plants*, ed. Gagliano, Ryan, and Vieira (2017), offers an ample overview. In early modern studies, ecocriticism has lavished some attention on vegetation, most especially in figurations of the forest, as in Theis, *Writing the Forest* (2005) and Nardizzi, *Wooden Os* (2013).
12. See Grusin, *Nonhuman Turn*.
13. Neri, *Insect and the Image*, xi.
14. Bass, *Insect Artifice*.
15. Schwartz, *Worm Work*, xv.
16. Parikka, *Insect Media*, xiii.
17. Weber, *Theory of Social and Economic Organization*, 358–59.
18. *Ibid.*, 360.
19. “Species Inflation: Hail Linnaeus.”
20. Brown, introduction to *Insect Poetics*, x.
21. Shakespeare, *King Lear*, 4.1.35–36.

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