# CONTAGIOUS SEEDS: DISEASE ECOLOGIES AND COLONIAL EXCHANGES IN EARLY MODERN LITERATURE

by

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submitted by	Karoline Almeida Pasciano	in partial fulfillment of the requirements for
the degree of	Master of Arts	
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## Abstract

This thesis investigates the rise of new medical perceptions of contagion theorized by Italian physician Girolamo Fracastoro (c. 1476-1553) and German physician Theophrastus von Hohenheim (c. 1493-1541) in the late fifteenth and sixteenth centuries. In contrast to traditionalist physicians, who believed that diseases were caused by an imbalance of one's humours in response to changes in one's environment, both Fracastoro and Paracelsus individually argued for an understanding of disease causation as the penetration of material entities, which they both denominated "seeds," into human bodies. In this study, I posit that within these seeds' infiltration into human bodies lies a phenomena of transformative becoming, which further intensifies the reciprocal kinship of the microcosm of the body and the macrocosm of the natural world, reframing pathogens and infection as parts of an ecological process which intimately intertwines corporeal and verdant landscapes.

Through a historiographic approach to European medical, ethnographic, and literary texts, each chapter explores the material, cultural, and ecological influences connected to the modes of contagion and embodied experience of these epidemics. The first chapter investigates the medical and cultural responses to the rise of pox epidemics in Europe. Along with a rhetorical analysis of early reports and treatises, this chapter discusses the repercussions of the disease in Italy, France, and England by considering how the pox is linked to ecological and (super)natural phenomena. The second chapter examines the sociopolitical effects of smallpox epidemics in indigenous populations. Applying Michel Foucault's conceptualization of "biopolitics," this chapter demonstrates how conceptions about contagion and disease have been instrumentalized in colonial and mercantile enterprises as a means to obtain control over indigenous bodies and the environments in which they dwelled in the Americas. In exploring this interweaving of literary, artistic, and medical works, I chart how new conceptualizations of contagion in the sixteenth century influenced early modern literary and historical representations of infected bodies and their surrounding environs.

## Lay Summary

This thesis investigates the rise of new medical perceptions of contagion methods in the sixteenth century. Focusing on ecological, cultural, and sociopolitical consequences of biological exchanges in transatlantic navigations, each chapter analyses the rise of syphilis and smallpox, both of which were disseminated for the first time in the Old and New Worlds, respectively, through colonial encounters. By tracing the sociopolitical contexts of both diseases in European colonial accounts and medical treatises, I examine how artistic and literary representations of contagion are connected to ecological processes, signaling how infection was perceived to be intimately connected to exchanges between bodies and the environments in which they dwelled.

## Preface

This thesis is original, independent work by the author, Karoline Almeida Pasciano.

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#### **INTRODUCTION**

## The Seeds of an Idea: Contagion Theories

#### in Sixteenth-Century Europe

In his 1530 poem *Syphilis sive Morbus Gallicus* (*Syphilis, or the French Disease*), the Italian physician Girolamo Fracastoro (c. 1476-1553) composes an unusual epic. Instead of singing of arms and men, as had his poetic predecessors, he instead sings on "seeds." He presents his argument in his initial lines, declaiming,

What were the varied accidents of matter, what the seeds which brought on an unaccustomed disease through long centuries seen by no one: which in our time raged through all Europe and through the cities of Africa [...] these I shall now begin to sing and through the liquid air and through the stars in vast Olympus I shall search for causes far hidden. (Eatough 39)

Merging botanical and etiological terminology, Fracastoro's "seeds" invite a reconsideration of diseases and their connection to the environment. That the natural world played a significant part in pathological causation was common knowledge for premodern audiences. Explanations about infectious miasmas and putrid vapours deriving from marshes, fens, and swamps date back to Hippocrates's *On Airs, Waters, and Places,* which tradition continued to be rehearsed centuries later by Roman physicians, such as Galen, as well as by medieval and Renaissance physicians (DeLacy 6). To them, such gaseous substances, as well as other environmental phenomena, including climatic and temperature variations, were the factors principally responsible for deregulating the humoral equilibrium in one's body. Disease, in fact, was not provoked by miasmas *per se* in this tradition, but rather as a resulting response from the body to exposure to such smells (1-2). What distinguishes Fracastoro's work from his contemporaries is his reconceptualization of pathogens as material entities, namely "seeds of disease," which, upon entering the body, have the capacity to reproduce themselves and infect one's humours.

Inspired by Lucretius's poetic formulations in his *De Rerum Natura (On the Nature of Things)*, Fracastoro's materialism in these first lines emerges in a spontaneous moment of seminal poiesis. His "accidents of matter" (*casus rerum*) signal an inadvertent, irrepressible creativeness that seemingly arises from the commingling of primordial particles in the void, an arbitrary entanglement of (non-)essential elements caught in swervings (*clinamen*), collisions, and generative becomings. Indeed, as Gilles Deleuze and Félix Guattari theorize, "all becomings are [...] molecular" and contain "as many differences as elements contributing to a process of contagion. [...] [T]hey come from different worlds, are borne on the wind, form rhizomes around roots; they cannot be understood in terms of production, only in terms of becoming" (242, 272). Elaborated from Lucretius's own vegetal terminology in his natural philosophy, Fracastoro's "seeds" similarly suggest the potential for growth, for the germination of new rhizomatic entanglements, and consequentially, for the materialization of further becomings. That Fracastoro is interested in material compounds is evident in his description of the "liquid air." This enmeshment of elemental substances recalls Empedocles's articulation of *rhizomata*, from which Deleuze and Guattari seem to derive for their own theoretical conceptualizations; in their classical signification, rhizomes represent the "tangling roots" which conjoin primordial elements and induce the roots' ever-shifting alliances with one another (Cohen and Duckert 2, 8).

Fracastoro was not alone in considering the existence of such "seeds" of disease. Also writing in the first half of the sixteenth century, German physician and alchemist Theophrastus von Hohenheim (c. 1493-1541), now most commonly known as Paracelsus, was similarly developing his own ideas about pathological entities, which he likewise denominated "seeds," and their contagion mechanisms. Influenced by Neoplatonic ideas and similarly inspired by Lucretius's atomism, Paracelsus believed that all material objects and creatures were composed of small units of matter, which had their form and essence shaped by Nature (Pagel 85). Materiality, according to him, was achieved from the amalgamation of simple elemental units, from which all things in the world were made (101-3). For Paracelsus, seeds of disease were likewise a product of a natural process of material spontaneous generation, a process which took place in both the body and the natural world (113, 115-6). In his conceptions, the human body, akin to earth, was capable of generating new "seeds" of matter, which could be transmitted to the natural world through channels that connected one's corporeal microcosm to the macrocosm of astral and cosmic bodies in the firmament (114, 120; DeLacy 7).

Although Fracastoro's and Paracelsus's seeds are never described as living beings, they are nonetheless endowed with vitality and agency. Vitality, as Jane Bennett notes, is not an exclusive attribute of living beings, but can also be found in both natural and artificial, human or non-human, organic or inorganic matter. I would argue that these seeds can be understood as natural actants, or as Bennett would term them, "vibrant matter," entities which are able to impact other entities surrounding them, engendering not merely physiological effects, but also sociopolitical affects (Latour *Politics* 237; Bennett viii). In their "[rage] through all Europe and through the cities of Africa," Fracastoro's seeds demonstrate their material agency through their violent breaching of both somatic and geographical boundaries. This agency, in fact, depends on such a breaching and on the "collaboration, cooperation, or interactive interference of many bodies and forces" (Bennett 21; Latour *Politics* 237). It is in these seeds' penetration of the human body and ability to *affect* their physical and sociopolitical status that their role as actants are made visible.

In exploring this interweaving of environmental and medical elocutions, I chart how new conceptualizations of contagion in the sixteenth century influenced early modern literary and historical representations of infected bodies and their surrounding environs. I argue that within these seeds' infiltration into human bodies lies a phenomena of transformative becoming, one which further intensifies the reciprocal kinship of the microcosm of the body and the macrocosm of the natural world, reframing pathogens and infection as parts of an ecological process which intimately intertwine corporeal and verdant landscapes. I present this project as a seedling that may germinate further entanglements in the already flourishing interdisciplinary fields of material ecologies and the medical humanities, both of which emphasize the vibrancy of embodiments. As Linda Nash argues, in their continuous transactions of humoral and elemental effusions, classical and premodern bodies have always been ecological (12). I further posit, then, that Fracastoro's and Paracelsus's formulations of infection can be figured as a moment of pathogenic-*cum*-seminal implantation into corporeal plots. In applying the term "plot," I mean

both to expand their theories' vegetal metaphor, reconfiguring the body as a fertile telluric space,<sup>1</sup> and to signal how the agency and impact of their seeds of contagion are not limited to a body's physical integrity, but also extend into the domain of its social semiotics and cultural narrativities.

To become diseased is to be physically and symbolically transmuted; it is a metamorphosis of both form and signification. Infection in the early modern period can be understood as an instance of generative, dynamic transformation, which redefines material bodies and discursive practices concerning them. To return to my consideration of "plot," I would argue that this redefinition of matter is therefore capable of engendering new social signifieds and (hi)stories. Diseased fleshly matter is translated into "a site of narrativity, [...] a corporeal palimpsest in which stories are inscribed" (Iovino and Opperman "Theorizing" 451). Such inscriptions, in turn, detail ascriptions of vulnerability, difference, and environmental violence. It is precisely through a reading of these ascriptions and tracing of these narrative loci that I approach my present project. In what follows this introduction, I investigate the medical history of contagion in the early modern period as a means to examine how disease reconfigured bodily relations both physically, environmentally, and socio-politically. By probing into the rhetoric of such narratives, I discern how processes of contagion are embedded within Renaissance representations of diseased bodies and the environments they inhabit. I am, moreover, also interested in the ways in which these processes can be tied to the social phenomena of marginalization and othering in premodern texts, particularly in relation to questions of race, indigeneity, and infection which permeated discourses about the New World. Discursive practices and materiality are always cooperative and imbricated with each other (467). Thus, becoming diseased entails not simply the emergence of physical and cultural signs of pathological expression, but also the materialization of new publics and dialogic spaces.

In the ecological entanglements of pathological seeds and bodies, there is also the production of hybridity, of blends of natural, human, and, as this introduction shall demonstrate shortly, cosmological

<sup>1.</sup> In envisioning this corporeal reconfiguration, I call to mind David Abram's conceiving of bodies as ecological emplacements: "the body is itself a kind of place—not a solid object but a terrain through which things pass, and in which they sometimes settle and sediment" (230).

natures. As Bruno Latour suggests in We Have Never Been Modern, hybridity represents a threat of disruption to traditional structures of social and political power, which, for premodern authorities, had to be combated (42). Diseased bodies, therefore, are seen as infective in more than a physiological way; they also pose a risk of ideological and moral contagion. Their forms can be considered as reactive sites of "natureculture," or in Donna Haraway's words, of "implosions of the discursive realms of nature and culture" (105). As such, they are laden with a semiotic multivocality that feeds feelings of uncertainty and anxiety in premodern-and, I would also argue, modern-minds. The signs of disease in such bodies do not merely signify the danger of corruption to nearby bodies, but also presage and simultaneously recall a historical loss of identity and autonomy, "a fear of collapse, a sense of dissolution" of established orders (Gilman 1). Such fears are not exclusive to premodernity but are rather transhistorical (Duden 37; Nash 11). We still experience them even now when encountering the biological threats of global pandemics or the fictional anxieties of zombie narratives. Similar to premodern contexts, these feelings still prompt the construction of social divides and physical spaces of containment. These accounts also evidence that the marginalization of diseased bodies is not solely based on the contagiousness of bodies but also intersect with other forms of social, sexual, and racial oppression, in which publics have likewise been traditionally described through rhetorics of alterity. Blame for the widespread of epidemics, as the following chapters will explore, is often localized in the most vulnerable sections of social structures.

## "Seeds of Contagion": Fracastoro, Paracelsus, and Disease Ecologies

In what remains of this introduction, I present a brief historical overview of premodern understandings about disease and the reception of sixteenth-century theories of contagion proposed by Fracastoro and Paracelsus. Although there is no evidence of collaboration between the two physicians, both conceived of similar theories concerning the origins of pathogens and their mechanisms of contagion, referring to their agents of disease as "seeds."<sup>2</sup> While their contributions to the field of

<sup>2.</sup> As Vivian Nutton notes, Fracastoro never "expressly claim[s] to be espousing novel or revolutionary views. They are indeed put forward, in typical Renaissance fashion, as a continuation of earlier doctrines, as modifications and extensions of

medicine were not readily and unanimously accepted by their contemporaries, their works were posthumously lauded by later humanists and medical scholars, garnering particular attention in the nineteenth century, when their ideas were deemed by many scientists as rehearsals of proto-germ theories, which were validated at last through advancements in technology and the rise of the discipline of microbiology (Pelling 319). At the core of their works lies a profound interest in pathogenic ontology, one which was not previously shared by their classical predecessors or early modern peers, whose treatises were more concerned with identifying symptoms of various diseases and developing remedies to treat them.

Challenging dominant Galenic and Hippocratic paradigms, both Fracastoro and Paracelsus based their conceptions on classical theories of atomic and monistic materialism, respectively (DeLacy 7).<sup>3</sup> Fracastoro was particularly influenced by the ancient Greek works of Lucretius, whose philosophies expounded the existence of "tiny, eternal, indivisible particles of matter possessing and differing in size, shape and weight, and moving in infinite space" (Lucretius 12; Gibbs 192; Singer and Singer 29). According to them, such particles, which Lucretius denominates "seeds" (*semina*) or "creative bodies" of things, represented the building blocks of every material form in the universe, and their different combined configurations were deemed the responsible factors for the development of specific qualities, such as temperature, colour, or smell (DeLacy 8; Lucretius 90-3). As they would arbitrarily swerve in the "void" or "empty space," these seeds were believed to collide, merge, and creatively generate "first-bodies," or "first-beginnings" of all things, subsequently descending to the earth by virtue of their atomic weights (Lucretius 72). Earth was indeed both the place of origin, as primal seeds of matter ascended into the air from it, and the final destination for all seeds; for Lucretius, matter did not perish, but rather entered in new entanglements with other seeds of matter once they returned to the soil (99).

older, classical ideas." His ideas build upon a diverse corpus of classical and contemporary notions about pathogenic causes, whose authors are, for the most part, rarely acknowledged in Fracastoro's works ("Seeds" 23). It is possible, then, that Fracastoro may have been aware of Paracelsus's ideas while writing his treatise on contagion, and vice-versa.

<sup>3.</sup> While Galen vaguely entertains the idea of "seeds" of disease in brief passages in two of his treatises, most medicine historians agree that his approach to the subject is quite hesitant and merely comes as a response to other contemporary theories based on Democritean materialism with which he was familiar (Nutton "Seeds" 7-10).

Fracastoro's theorizations about "seeds of contagion" (*seminaria contagionum*) are likewise derived from Lucretian descriptions of infective particles. In *De Rerum Natura*, Lucretius postulates that

there are seeds of many things which are helpful to our life, and on the other hand it must needs be that many fly about which cause disease and death. And when by chance they have happened to gather and distemper the sky, then the air becomes full of disease. And all that force of disease and pestilence either comes from without the world through the sky above, as do clouds and mists, or else often it gathers and rises up from the earth itself, when, full of moisture, it has contracted foulness, smitten by unseasonable rains or suns. (272)

Similar to the philosopher, Fracastoro also figured the material generation of his seeds as a part of an ecological cycle of spontaneous creativity tied to atmospheric and subterraneous processes of putrefaction and meteorological phenomena (Wright 57). Within this cycle, the material possibilities for this generation were infinite; therefore, it was precisely due to this unpredictable nature of seed matter that Fracastoro surmised different diseases could be formed. Each malady was the product of a distinct type of seed which contained its own particular material characteristics and affinities (39). Scattered in the air, such seeds would be carried by the wind until coming into contact with a potential victim.

According to Fracastoro, contagion was occasioned through three different modes: contact with another infected individual, by virtue of shared breath; long-distance transmission, as seeds were transported by strong winds and waterways; and object-mediated contamination, in which clothes and items were seen as carriers for *fomites*, viscous particles which had the ability to mix with seeds and be absorbed by skin pores (Wright 11, 13-5, 25, 35).<sup>4</sup> Upon infiltrating a victim, the seeds would, by interacting with the humours with which they were compatible, reproduce and continue to "propagate other [seeds] precisely like themselves" until the entire body was infected (35). While Fracastoro timidly began to develop this theory in his poem *Syphilis* (1530), it was not until 1546, with the publication of his medical treatise *De Contagione, Contagiosis Morbis et eorum Curatione (Of Contagion, Contagious Diseases, and Their Treatments*), that the full extent of his ideas became public (Wright xxi). According to his correspondence with humanist scholar Pietro Bembo, Fracastoro worked on *De Contagione* from

<sup>4.</sup> As Charles and Dorothea Singer observe, the three modes of contagion were not originally conceived by Fracastoro, but already appear in medical discussions during the Paris plague outburst of 1533, in which clothes and furniture from infected houses were not permitted to be moved to other residences (22).

1534 to 1538 (Nutton "Reception" 199 n.7). This delay in publication is deemed to be most likely connected to the censorship of humanist works by the Catholic church in their counter-Reformation efforts. Especially after 1543, Inquisition pressures were prevalent in Venice, inhibiting authors whose ideas may have seemed dissenting in tone (Wright xli).

Writing around the same time, Paracelsus developed a similar theory of seminal contagion. Unlike Fracastoro's, the German physician's ideas were founded upon a vitalist monism, which rejected traditional Greek epistemologies about the humoral body and the four elements (DeLacy 7; Gagnon 18). Although Paracelsus held the Platonic belief that all matter was animated by the pneumatic fluxes of the world spirit (*spiritus mundi*), a belief that was also shared by Galenists, his natural philosophy was primarily influenced by Arab thinkers, who contended that all particles in the universe were composed of three alchemical elements, denominated by him as "Principles": salt, sulphur, and mercury (Gagnon 17-8; Pagel 100). In contrast, air, water, earth, and fire were, in turn, composite elements derived from the mixing of the three Principles (Pagel 82). That is not to say, however, that the four classical elements were deemed unimportant in Paracelsus' theory; they were, in fact, the main components in his conception of spontaneous generation. Described as "*Matrices*" or "the womb of the world," the four elements formed the origins for all objects, environments, and phenomena (82).

For Paracelsus, material bodies were characterized as a combination of both base, elemental mixtures and finer, eternal spiritual substances. Although matter was understood as "the visible, mutable, and perishable" nature of the body, the spirit was likewise deemed corporeal. Materializing in a fluid, dynamic process of "composition," spiritual substances could be continually solidified as long as the elemental matter was also present and active (Pagel 85). The combination of all components in the generation of matter, as well as their decomposition in its dissolution, was done in specific structures called the "Archei," which were responsible for transmuting the Principles stored in the "Iliaster," "a general *reservoir* of building materials [...] necessary for the growth and preservations of natural products" (105-6). Importantly, it was in the Archei, as well, that Paracelsus's seeds (*semina*) of disease were understood to be formed (107). According to him, the Archei contained within the microcosm of a

human body was intimately connected to the celestial Archei of the macrocosmic astral plane;<sup>5</sup> the former's generative ability was seen as potent as the latter's (120, 137).

Imagination was conceived as an "astral force" of the human body, capable of engendering and emitting seeds to the celestial cosmos and affecting the material world. Paracelsus argued that ill will and sinful thoughts were key factors in the formation of seeds of malice, as "[a]ny lust, desire, volition [...] which arises in man's memory or imagination engenders a body in him, just as wrath or jealousy grow into a body."<sup>6</sup> For him, "diseases [grew] in man, as grass and shrubs grow from the earth" (trans. by and qtd in Pagel 140, 179). Human bodies represented the inceptive sites for the creation of pathogens (*contagium*). Similar to Fracastoro, Paracelsus believed that different diseases resulted from the various interactions and material configurations involved in the formation of these seeds (Gagnon 20). Considered innocuous when first conceived in the body, these seeds, upon reaching the astral plane and interacting with cosmic bodies, would become fully materialized as "seeds of disease" and be later dispersed in the atmosphere and soil in the form of rain (DeLacy 7; Pagel 180-1). Contagion, consequently, would happen either through the contamination and corruption of natural resources by these seeds or from their inhalation through inspiration (Pagel 141, 153, 181-2).

Although neither Paracelsus, nor Fracastoro, received much attention during their lifetime, the influence of their theories continued to grow, especially around the second half of the sixteenth century, as their works were more widely disseminated around Europe. In England, such an influence can clearly be recognized in vernacular treatises which revealed a more receptive attitude towards untraditional medical conventions. Richard Bostoke, a Paracelsian adept, exemplifies this type of attitude in his 1585

<sup>5.</sup> In Paracelsus' philosophy, humans were composed both of "an elemental and a super-elemental body," the latter of which was called the "astral body" ("*corpus sidereum*") (Pagel 120).

<sup>6.</sup> Women were particularly singled out by Paracelsus as culpable for surges of diseases. In his *De Virtute Imaginative*, he claims that women's "hatred and lust for vengeance are stronger" than men's and, therefore, "should not be left to melancholy thoughts." He continues by stating that "[i]f a woman has a trade and does not prosper, her unsatisfied capacity and imagination may contaminate all the goods she sells. [...] A woman may die in childbed wishing in wrath and anger that all the world may die with her. The strong imaginative volition may convert itself into a spirit [...] [and] by the means of the ("menstrual") birth discharge [...] generate an epidemic" (Pagel 122).

#### The Difference betweene the Auncient Phisicke, First Taught by the Godly Forefathers, [...] and the Later

## Phisicke Proceeding from Idolaters, Ethnickes, and Heathens. In this text, he complains about how

the heathnish Phisick of Galen doth not knowe [...] the power of the mechanicall spirites, by meanes of their subtiltie, finesse, pearcing, and moueableness: [...] wherefore, they doe not knowe how the mechanicall spirites of deseases doe differ among them selues [...] For, *seedes* do differ in partes of the bodie: [...] of which difference of the seedes commeth the difference of the mechanicall spirites conteyned in them, in which the giftes and offices of the seedes doe flourish. Likewise, might they know of the fits, panges, and passions of deseases, the difference of the seedes, and the fruites of the seedes being knowne, [...] even as the Peare tree is by the Peare: because of the fruites, vz. the panges, fits, passions, and maner of the diseases, are brought forth like to the rootes. (sig. A6<sup>v</sup>-A7<sup>v</sup> emphasis mine)

In this passage's final analogy, Bostoke's Paracelsianism essentially illustrates the body's position as an ecological plane; just as pear seeds germinate in the soil, "the panges, fits, passions, and maner of diseases" are seen as rhizomatic manifestations engendered by seeds of disease. In this conception the "fruit of diseases" may perhaps represent the external signs manifested on the skin's or other organs' surfaces.

Not all authors, however, were so defiant in their criticism of Galenic knowledge as Bostoke. Most often, physicians evidenced their interest in dissenting medical notions by selectively combining ideas from classical and contemporary sources. Such is the case in Thomas Lodge's 1603 *Treatise of the Plague*, in which he describes how plagues are caused by a "general deprauation of the humors [...] or putrefaction" that are derived from "the ayre which we sucke, that hath in itselfe a corrupt and venemous seede" (sig. B3<sup>v</sup>-4<sup>r</sup>). Citing Fracastoro's *De Contagione*, Lodge attests to the former's expertise, describing the Italian scholar as

an excellent and noted Phisitian [who] sufficiently testified in his treatise of the Plague [...] that all they, who in the pestilent yéeres of 1505 and 1528 were let blood, died all of them by the reason aforesaide, because [...] where the interior séede of the venime is scattered and mixed with the blood and humors of the body [...] letting blood is greatly harmefull, because it causeth agitation of the blood, and augmenteth by this means the putrifaction. (sig.  $H1^{v}$ )

As a means to confirm Fracastoro's postulations about this "agitation of the blood," Lodge appeals to classical theories, claiming that "euery matter that is mooued, is worse th[a]n that which remaineth in quiet, as testifieth Galen in his fift booke *de Symptomatum causis*" (sig. H1<sup>v</sup>). In his discussion of medical paradigm shifts in early modern England, Jonathan Gil Harris notes that Lodge's vacillations between

Galenic and Fracastorian theories appear to project a new notion of embodiment and disease, one in which the body is envisioned as a palimpsest, "a multi-layered site of contradiction and contestation, upon which each body image implied by his different explanations aspires to a measure of authoritativeness while failing to erase the competing traces of its predecessors" (25).

It is by tracking these traces of transhistorical medical theories in Renaissance poetic and dramatic texts that I analyze these multilayered significations of ecological embodiment and pathological becomings. Through a historiographic approach to European medical, ethnographic, and literary texts, this thesis is divided into two, separate "case studies" of early modern epidemics, namely syphilis, also known as "the great pox," and smallpox, both of which are seen to have arisen from biological exchanges that were consequently occasioned by the various transatlantic expeditions of the period. Each chapter explores the material, cultural, and ecological influences connected to the modes of contagion and embodied experience of these epidemics.

The first chapter investigates the medical and cultural responses to the rise of pox epidemics in Europe. Along with a rhetorical analysis of early reports and treatises, this chapter discusses the repercussions of the disease in Italy, France, and England by considering how the pox is linked to ecological and (super)natural phenomena. Using Jonathan Gil Harris's notion of "pathotext," I explore fictional narratives about and artistic representations of the pox's origins, contagion methods, and cures as a means to demonstrate how these works can be understood in terms of what I define as "mythopoiesis," a process of myth-making in which local and foreign environments, real and fictional accounts of bodily derangement, and traditional and novel medical paradigms are harmonized in an effort to narratively shape ontological and teleological understandings about the pox. The chapter also analyses the uses of guaiacum wood, a remedy which was described in the period as *lignum sancto* ("holy wood") or *lignum vitae* ("wood of life"), in the treatment of syphilis and examines how this New World cure was used in support of arguments of an American origin for the disease (Test 108-10; Monardes Sig. C2<sup>v</sup>, C3<sup>v</sup>). By investigating Fracastoro's poem *Syphilis sive Morbus Gallicus (Syphilis, or the French Disease*), Jean Lemaire's 1525 *Les trois comptes intitulez de Cupido et de Atropos*, Agnolo Bronzino di Cosimo's painting *An Allegory with Cupid* 

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*and Venus*, and Shakespeare's Sonnets 153 and 154 (1609), I explore the mythological uses of ecological imagery in connection to initial assumptions about syphilis's transmission and symptoms, as well as to the establishment of its purported cures in the early modern period.

The second chapter examines the sociopolitical effects of smallpox epidemics in indigenous populations. Applying Michel Foucault's conceptualization of "biopolitics," the chapter demonstrates how conceptions about contagion and disease have been instrumentalized in colonial and mercantile enterprises as a means to obtain control over indigenous bodies and the environments in which they dwelled in the Americas. Through an analysis of contemporary European travelogues, including Peter Martyr d'Anghiera's 1530 De orbe novo (Decades of the New World), Bartholomé de las Casas's Historia de las Indias (History of the Indies),<sup>7</sup> Bernadino de Sagahún's 1577 Historia General de las Cosas de Nueva España (General History of Findings in New Spain), and Thomas Hariot's 1588 A Briefe and True Report of the New Found Land of Virginia, I explore how both the spread and containment of smallpox in indigenous populations, as well as a semiological control over the disease's significations within indigenous communities, evidence regulatory and biopolitical tactics practiced by European colonists. The second half of the chapter examines how Shakespeare's The Tempest engages and reflects such practices on stage. Focusing on the relationship between foreigner and native, I consider the implications of Prospero's and Caliban's invocations of disease and its mimetic features in relation to reports about New World indigenous peoples as a means to argue that Caliban's deformity may not just stand as a signifier of his "distorted" scruples or rustic manners, but rather as a symptom or consequence of an exposure to Old World pathogens, which has affected him both physically and psychologically.

Finally, the coda presents a reflection on how discourses about disease, embodiment, and the natural environment are still very much materially and rhetorically entangled. Examining current debates about COVID-19, I consider how twenty-first century responses to this new, unknown disease appear to present similar rhetorical patterns to those seen in sixteenth-century works about the pox and smallpox. As global

<sup>7.</sup> While various manuscripts of *Historia de las Indias* were circulated from 1527 and 1565, de las Casas wished for the work to be published 40 years after his death. It, however, would only receive its first printed edition in 1875 (Collard vii).

transmigrations continue to promote the movement of biological "seeds" of contagion across continents, one can once again observe echoes of past anxieties about diseases and foreign bodies, the formation of new pathotexts, as well as the consequences of the implementation of new biopolitical policies over physically, socially, and economically vulnerable bodies.

#### **CHAPTER 1**

#### Of "Strange Malladies" and "Soueraigne Cures":

#### **Ecological Becomings and the Pox's Mythopoiesis**

"In these days of ours," writes Konrad Schellig of Heidelberg, a German physician, "grievous and sundry sicknesses and scourges have ensued." Writing in August 1495, he declares how "[n]otably, in [his] time there have been severe diseases and plagues of the people, to wit ['the evil poxes'] which have never occurred before nor been heard of within the memory of men" (Sudhoff and Singer xix). Schellig's edict stands as one of the first texts mentioning a mysterious disease that would eventually become one of the most notorious epidemics in early modern Europe, namely the "great pox."<sup>1</sup> Named for its distinctive pustules, the great pox was perceived as an unprecedented malady by the majority of European doctors. Most early treatises and chronicles emphasize the disease's novelty, often exhibiting a tone of unease, which doctors and laymen alike shared when discussing this new infection. As historian Anna Foa observes, early modern medical disputations about diseases were typically based upon pre-established, widely-accepted knowledge, which was exclusively derived from ancient Greek, Roman, and Arabic traditions (26). To be faced with a disease that had never "been heard of within the memory of men" was to, akin to New World travellers, wade in uncharted territory.

While the symptomatic characteristics of the pox were consistent across early treatises, theories about its origins and sociopolitical ramifications were often expressed through comparisons and associations with other conditions, such as leprosy, which had since the classical period been defined by clearly-bounded scriptural histories and moral significations. These ascriptions consequently prompted the construction of a pathological mythos surrounding the pox, which was simultaneously original and

<sup>1.</sup> Although "venereal syphilis" is now the most widely accepted name for this disease, the term was only popularized in the nineteenth century by germ theorists, who lauded Fracastoro's poem *Syphilis sive Morbus Gallicus (Syphilis, or the French Disease)* for its proto-theorizations of seeds of disease, entities that would centuries later be identified as living microbes. The term, however, is deemed by many scholars as historically inappropriate, since "syphilis" was discovered to be not one disease, but a conjunction of three diseases, including endemic syphilis (also known as bejel), yaws, and venereal syphilis (Arrizabalaga et al. 18; Siena 12). Given this multifarious quality and anachronistic nature of the term "syphilis," I have opted to use the early modern term "pox" instead, as it unequivocally appears in various fifteenth-, sixteenth-, and seventeenth-century texts and may have been used in reference to all three varieties of this disease.

inspired by traditions of existing narratives about diseases (Foa 28). Textual records of the pox thus reflect an attempt to both demystify and, paradoxically, mythologize it. As a unified whole, these records constitute what Jonathan Gil Harris denominates a "pathotext," which he defines as "an inscription, rather than re-presentation of sickness" that sees a disease as "not a simple pathological fact outside of or prior to language [...] but [as] a textual palimpsest that splices together many strands of discourses" ("(Po)X Marks the Spot" 110). Focusing on the great pox, Harris comprehends sixteenth-century mercantilist culture and discourses as reflections of a process of both physical and sociopolitical infection. In his readings, he links the history of transatlantic commercial trades to the notion of moral corruption, reading pox marks as not merely a symptom of a physiological affliction, but also as a figural sign of stigma and spiritual decay, a sign that is linked both to the rise of the great pox and traditional, medieval conceptions of sin (113). As a palimpsest, the various narrative strands of a pathotext do not conjoin into a univocal, synchronous understanding of a disease in the early modern period, but rather clash and tangle "multiple historical moments" into a knotted nexus, an interweaving of past and present perceptions of micro- and macrocosmic engagements (112). This interweaving, in turn, composes the fabric of a disease's textual and cultural history, in which traditional and innovative medical paradigms, as well as scriptural and real bodies are harmonized into a whole.

Through an analysis of early modern medical treatises, travelogues, literary texts, and artistic representations, this chapter builds upon Harris's work on syphilis. While Harris locates his arguments within English economic histories of trade and their echoes in local literary works, I am interested in exploring the pox's pathotext from a wider European context; central to my inquiry are the various multilingual strands of discourses about the pox beyond English boundaries, strands weaved from Spanish, French, and Italian works. Examining the relationship between contagion methods, infected bodies, and healing narratives, I explore the pox's ecological and (super)natural origin stories as a means to uncover the ways through which the pox etiologically and narratively infiltrated Europe's early modern social and cultural milieux. Such origin stories, as I seek to demonstrate in my survey of medical, literary, and visual art works, were not exclusive to a single genre, medium, or nationality, but rather permeated

the European imaginary as what I would describe as a "mythopoiesis," a process of myth-making which merged local and foreign environments, real and fictional accounts of bodily derangement, and traditional and novel medical paradigms as a means to narratively shape the ontological and teleological nature of the pox. Vividly evoking the agonies caused by the disease, the pain represented in mythopoiesis's narratives can be understood as a direct counterpart to and reflection of the daily suffering witnessed— and sometimes endured—by its authors and artists. One can therefore envision mythopoiesis as a process of inscription and self-inscription, in which pox-plagued bodies become surfaces upon which one can perceive multiple transhistorical, cultural narratives. As the following sections illustrate, mythopoiesis emerges in the early modern period as an enmeshment of present and past perceptions about disease and its significations, perceptions which altogether reflect and reimagine the material experience of contagion. Within mythopoiesis are questions of contagion and contact (from the Latin *con-tangere*, or "to touch one another"), as well as of intimate exchanges and dynamic flows across corporeal and ecological zones, all of which reinforce the unescapable permeability of somatic, cultural, and geographic boundaries, revealing parallels in their vulnerabilities.

### "This pernitious seed": The Widespread of the Pox in Europe

On February 22, 1495, King Charles VIII of France marched his army into the city of Naples. Composed majorly of Flemish, Gascon, Swiss, and Spanish mercenaries, the French King's battalion had consistently defeated Italian troops since the beginning of his invasion in September of the previous year (Quétel 9). Although Charles did not encounter any difficulties in occupying Naples, his control over the territory would be only temporary. By the summer of 1495, most of his army had been rendered defenseless and were rapidly disbanded by two opposing forces: the counterattack of a new Italian league and the first outbreak of the great pox. Undisciplined and notorious for their debauchery, Charles's mercenary soldiers had gathered an entourage of beggars and prostitutes, whose contact with both Italian and French sides facilitated the spread of the disease (10-1; Oriel 11). In what appears to be the very first description of the disease, military physician Marcello Cumano reports seeing "several men-at-arms or footsoldiers who, owing to the ferment of the humours, had 'pustules' on their faces and all over their bodies," which "looked rather like grains of millet" (qtd and trans. in Quétel 10; Figure 1). Cumano's comparison of the pustules to "grains of millet" curiously signals how, even prior to Fracastoro's and Paracelsus's articulations of disease as a germination of plant-like seeds within bodies, ecological terms were already imbricated in medical discourses.

That these pustules are linked to fermentation indicates how infection was likely conceived as both a generative and transformative process. Etymologically, fermentation is derived from the Latin *"fervere"* or "to boil" (*OED* n.); it signifies a feverous, expansive growth manifested from the conversion of one substance to another, such as in the brewing of wine or in the leavening of bread dough. For medieval alchemists, whose naturalist foundations were tied to Aristotelian and Platonic principles, the same mechanism was believed to be the cause of the generation of matter (Pagel 259-61). Drawing from Arabic works, they perceived fermentation to be the main catalyst in the spontaneous generation of earthy entities,



Figure 1: Hans Holbein the Younger (1497/8-1543), *Head of a Young Man*, 1523, Harvard Art Museums/Fogg Museum, Bequest of Paul J. Sachs, "A Testimonial to my friend Felix M. Warburg," © 1949, President and Fellows of Harvard College, 1949.2.

including plants (Jones 89-90). Such works would indeed also serve as influential sources to Paracelsus's and Fracastoro's notions about seeds of disease in the sixteenth century (Gagnon 18-9; Wright xlvi). Italy had likewise experienced a rise in interest in medical and philosophical works about alchemy and hermeticism around the end of the fifteenth century, demonstrated especially through interventions by Marsilio Ficino (1433-99), Giovanni Pico della Mirandola (1463-94), and Lodovico Lazzarelli (1447-1500) (Szönyi 68-9). It is likely then that Cumano would have been aware of such discussions, and in his perceptions of fermentation, he may have envisioned a process of transmutation of humoral substances into putrefied, diseased elements, as well as a generation of millet-like matter. One could argue that in the latter, the body, like the earth, would be understood as a creative space capable of generating seed-like forms through infection.

Historical records about the epidemic's first two decades also suggest that its early victims suffered from a much deadlier version of the disease than modern publics. In his 1499 chronicles, papal secretary Sigismondo dei Conti recounts the agony felt by pox sufferers, stating that the "pestilence not only deformed the human face with pustules and ulcers, but also invaded the limbs and joints of the body, and, gnawing down to the marrow, so intense and troublesome pain caused that those who were affected screamed day and night without stopping, envying the dead themselves" (272 my translation).<sup>2</sup> Another contemporary account by Francesco Matarazzo, a chronicler from the Italian city of Perugia, relates that some patients would become so desperate with pain that they would kill themselves by drowning in nearby rivers to end their misery (33). Recent epidemiological studies posit that, in addition to lacking any kind of immunity to the newly introduced pathogen, these victims also had to battle against a more potent strain of the *Treponema pallidum* spirochete, the bacterium responsible for the pox (Knell S174; Forrestel et al. 2; Harper et al. "The Origin and Antiquity" 100). This strain, however, seems to have undergone a process of natural selection in Europe during these initial decades; killing its victims faster than it could reproduce itself, this deadlier strain gradually died out over time and was replaced by milder, adaptive strains that were more similar to the version of syphilis that survives to date (Fabricius 24).

Given this multiplicity of strains, it is also likely that the pox's rapid widespread in Europe was linked to a greater number of transmission methods. As Schellig warns in his 1495 edict, one should beware of the "evil pustules" that characterize the new disease, as they are "contagious, whether by direct or indirect contact" (Bayle and Gauvin 31); in his later prescriptions, he also cautions his readers against bathing frequently and to "use maximum caution when seeking public baths, lest [they] find [themselves] infected by their contaminated waters, for one can be infected both by contact with other infected people or by indirect means" (Sudhoff and Singer 13 my translation).<sup>3</sup> The same anxiety is still echoed decades

<sup>2.</sup> The Italian original reads, "Quella lue non solamente deturpava il volto umano di pustule ed ulceri, ma gli arti e le giunture del corpo invadeva, e rodendo fino al midollo, sì intensi e molesti dolore arrecava che quanti n'erano colpiti strillavano dí e notte senza posa, invidiando agli stessi morti."

<sup>3.</sup> The Latin original, reproduced as a facsimile in Sudhoff in Singer, reads, "Frequens et immoderatus balnei usus vitandum est [...] Verum pro nunc cum maxima cautela stuphae et thermarum balnea sunt quaerenda, ne ab infectis sint balnea per contactum infecta; nam per contactum infecti mediate vel immediate alias inficiunt personas."

later in Desiderius Erasmus's colloquy *A Marriage in Name Only* (1529). In this dialogue, a man named Gabriel expresses his fears about contagion, stating that "the [pox] is transmitted not by one means alone but spread[s] to other persons by a kiss, by conversation, by touch, by having a little drink together" (152). The notion that diseases, including the pox, could be transmitted by touch also appears as one of Fracastoro's theorized transmission methods. In *On Contagion*, he argues that contagious seeds could be mixed with small, air-borne particles of matter called *fomites* and stick to objects, which upon being touched, could infect a victim (Wright 13-5). According to paleopathological data, many European early modern skeletons display signs of infection by not only the venereal variety of syphilis, but also by the other two subspecies of the *Treponema pallidum* bacterium, endemic syphilis (bejel) and yaws, all of which could have been equally described by the term "pox" in early modern discourses; in contrast to venereal syphilis, which can only be transmitted through coitus, endemic syphilis and yaws are also transmissible via oral and skin-to-skin contact (Harper et al. "On the Origin" e148). It is possible therefore that Renaissance descriptions of contagion may have reflected these analogous forms of bacterial infection.

It was also amid such discussions about symptoms and mechanisms of contagion that early modern scholars found a space to elaborate their theories about the pox's origins. In his 1596 *An Easie, Certaine, and Perfect Method to Cure and Preuent the Spanish Sicknes*, Scottish surgeon Peter Lowe considers the disease's first appearance in Europe, stating that "[t]here are diuers learned men of diuers opinions, and for the most part, doubtfull, of the originall of this disease." Lowe details some of these opinions, commenting that, for some, the disease had been sent from God as "a scourge to the people for whordome," while others "[thought] it to be ingendered of a Fornicator and a Lepre, in the West Indies" and had been brought back to Europe by sailors (Sig. B1<sup>v</sup>). As Susan Sontag notes, "Nothing is more punitive than to give a disease a meaning—that meaning being invariably a moralistic one" (58). To attribute moral signification to a disease is to transform it into a metaphor, semiotically imbuing it with notions of intentional malignancy, which redefine the process of contagion through ascriptions of responsibility and agency (58). Becoming diseased, in this context, develops into a direct consequence of

one's actions in the form of divine retribution; one's marks of infection (from the Latin *inficere*, or "to taint") are thus translated into literal manifestations of stigma. It is precisely through this translation of material signs of disease into emblematic signifiers of spiritual or moral corruption that the pox's mythopoiesis becomes especially visible in Lowe's text; merging historical traditions and recently-developed knowledge, the narrative strands that weave the pox's supposed origins are polychronic, since their intersections reflect a conflation of transtemporal, cultural ideas (Harris *Foreign Bodies* 25).

The moralization of the pox also took shape through the development and popularization of artistic representations focused on the literal and social cleansing of bodies. The woodcut illustration to Sebastian Brant's 1496 flyleaf *Eulogium de pestilentialis scorra sive mala de Franzos*, one of the first poetic works about the pox, displays how disease was directly framed as a justification for religious intolerance and racial violence, depicting epidemics as divinely inflicted punishments, the purpose of which was to exterminate non-Christians. In the image, a cloud-enshrined Virgin Mary offers a crown to the Holy Roman Emperor Maximilian I for his crusading efforts, which are signaled by the Habsburg eagle shield at his feet, while a baby Jesus shoots pestilential arrows at Jewish victims, infecting them with pustules (Figure 2; Sudhoff and Singer xxii). That Jesus's punishment comes in the form of arrows is in part ironic, as the iconographic tradition of deities exacting punishments by shooting cursed projectiles on populations precedes Christianity and were often used by ancient, pagan religions. As Margaret Healy notes,

[t]hroughout the ancient, medieval, and early modern world outbreaks of deadly 'plagues' were associated with [...] blows, strokes and wounds [...] inflicted by an archer god, a sword, a serpent, angels or spirits, as punishment for human transgressions. [...] Within this imaginative framework the 'blow' might reveal itself on the victim's body as a mark or 'token'; hence any disease that produced skin lesions had a pronounced tendency to be attributed to sin and to punishment meted out by an angry deity. ("Anxious" 23)

Especially in ancient Greek and Roman myths, the appearance of plagues was often linked to particular gods, including Cupid or Apollo, who were often depicted with bows, using their power either in favor or against one's love or health, respectively. Typifying this tradition, the visual lines tracing Jesus's arrows

to the fallen man's pustules signal how the attacks of Maximilian's army on their enemies function as the earthly counterpart to the already inflicted, divine strikes.



Figure 2: Woodcut illustration in Sebastian Brant's *Eulogium de pestilentialis scorra sive mala de Franzos* (Basel, 1496). "The earliest printed literature on syphilis," London, Wellcome Collections, Attribution 4.0 International (CC BY 4.0).

Lowe's treatise also exemplifies another rhetorical practice that was widely used in the period, the assignment of foreign origins to the pox. Since the disease's first outbreak, rivalling countries frequently assigned responsibility for the pox's emergence and dissemination in Europe. In Italy, the disease became known as the "*Mal Francese*" or "*Malo Francioso*" ("the French evil"); in France, the "*mal de Naples*" ("the disease from Naples"); in England, the "French pox" or the "Spanish disease"; in Germany, the "*Bösen Franzos*" ("the French evil"); in Spain, the "Italian disease" or the "Indian sickness," the latter of which was in reference to both West and East Indians; and in other places, as the Jewish disease (Arrizabalaga et al. 24, 57; Lowe Sig. B1<sup>v</sup>; Fabricius 31). Lowe's work likewise signals such blaming strategies. Despite listing the previously mentioned theories, he concludes that the most probable origin for the pox is the one provided by "Spanish Historiographers," who argue that "it was brought among the Christians […] by a Spaniard called Christophorus Columbus, with many other Spanyards, accompanied with some women, who came from the new found Iles occidentalls […] and spred this pernitious seed" (Sig. B1<sup>v</sup>). The theory that the pox had originated on the island of Hispaniola and had been brought to Europe by Columbian expeditions has been widely debated since it was first

proposed by Spanish physician Ruy Díaz de la Isla around 1506 and still remains a controversial topic among modern scientists (Díaz de la Isla fol. 2<sup>r</sup>; Wright xxi-ii n.3). This theory was also defended by many early modern authors, who wished to distance their own nation from any accusations and found in the New World an ideal scapegoat. Lowe's characterization of the pox as a "pernitious seed" suggests that he might have been directly or indirectly aware of Fracastoro's or Paracelsus's new theories of disease; similarly, his diction, akin to Cumano's, relates the disease to plant seeds, reinforcing the image of the body as a telluric space which seeds of disease could infiltrate and grow.

Medical treatises and literary works repeatedly relied on the motif of cultural alterity in the Americas as means to stereotype indigenous peoples as sexually licentious. Evidently, this motif was not exclusive to narratives about the pox, but had rather been used in many other texts, such as travelogues. Describing his voyages to America in 1497, Amerigo Vespucci proclaims his shock at how indigenous women "ha[d] the same liberties as the [men]," characterizing them as "lascivious beyond measure" (Markham 8). In La historia general y natural de las Indias (The General and Natural History of the Indies), a 1526 report that was widely translated in Europe throughout the sixteenth century, Spanish explorer Gonzalo Fernández de Oviedo y Valdés echoes Vespucci's characterization, denoting how only a few Christians who had partaken in sexual acts with indigenous women had managed to escape infection from the pox. Valdés also describes the disease as native to the New World, where it was considered a common ailment by indigenous inhabitants (365). This depiction of indigenous women as lustful and, arguably, naturally infectious operates beyond medical and moral modes. Its function is not limited to localizing and constructing the pox's origins but is also imbricated in sociopolitical structures of European self-fashioning. Within such structures, American indigenous peoples are ideologically presented as an immoral, contagious Other, which stands in direct opposition to supposedly more virtuous, civilized Europeans (Greenblatt Renaissance Self-Fashioning 9).

#### Fracastoro's Syphilis: Green Becomings and Mythopoiesis

Lauded by nineteenth-century scientists as one of the most important works in germ theory, Girolamo Fracastoro's Latin poem Syphilis sive Morbus Gallicus (Syphilis, or the French Disease) (1530) comprises a collection of mythological stories about the pox and contemporary medical prescriptions. Composed between 1510 and 1525, Fracastoro's poem was produced in Incaffi, a small village around the base of Mount Baldo to which the author fled after escaping an outbreak of the bubonic plague in his native Verona (Nutton "Reception" 199 n.7). Along with influences from Virgil, Lucretius, and Catullus, the pastoral environs of Incaffi appear to have served as sources of inspiration for Fracastoro's verses (Eatough 2). Between its first release in 1530 to the end of the century, the poem was published in at least twelve editions in Italy, France, Germany, and the Netherlands, rapidly rising to prominence in both medical and belletristic circles (Baumgartner and Fulton 36-45). It was during the poem's composition that Fracastoro would begin to rehearse his seeds of contagion theory, which appear more implicitly in Syphilis but are later fully argued in his 1546 De contagione et contagiosis morbis et eorum curatione (Contagion, Contagious Diseases and their Treatment) (Wright xxi). Having trained at the university of Padua a few years after the pox had broken out in Italy, Fracastoro was likely aware of the comparisons made between the disease's symptomatic pustules and plant seeds or grains, such as the one observed in Cumano's account. It is possible then that this rhetorical mode may have also influenced his ideas about seeds of disease.

Fracastoro's seed theory was founded upon a redefinition of pathological causation, in which both bodies and environment functioned together in the creation of diseases. The idea that the microcosm of the body and the macrocosm of its environment were closely linked was widely known and accepted in premodernity. Following Galenic and Hippocratic medical doctrines, most early modern physicians believed that diseases were a result of environmental corruptions which poisoned the air, food, and water, which precipitated an imbalance or putrefaction of one's humours (DeLacy 1-2; Wear "Place" 444). According to these traditions, these corruptions were derived from a variety of sources, including astral conjunctions, demonic or divine influences, decaying matter, and natural phenomena, such as earthquakes

and typhoons (DeLacy 8; Gibbs 119). In contrast to classical notions, Fracastoro's theory stressed the distinct materiality of a pathological agent; disease, for him, was no longer derived from a bodily response to ecological factors, but from the transmission of a physical entity which was distinct from and could affect both bodies and environments. According to his theory, seeds of disease were spontaneously produced through putrefaction in either watery environments, such as marshes, estuaries, and bogs, or within corrupt bodily humours. Such seeds, akin to their vegetal counterparts, could be carried by water or air, infecting victims through oral or skin-to-skin contact (Wright 57). The notion of disease-causing putrefied vapours was in fact not new in the early modern period, as it was derived from Hippocrates's ideas about miasma, which are discussed in his On the Nature of Man, a fundamental text in the education of medieval and early modern physicians (Hannaway 295). What distinguished Fracastoro's conception of disease from his predecessors was the understanding of disease as not merely a humoral response to a polluted environment, but rather an infiltration of environmentally derived seed entities, much like those we understand as "pathogens" today, into human bodies. Challenging traditional paradigms, Fracastoro's ideas promoted a progressive ontological view of diseases as organisms that are not just passive, elemental qualities, but a "sort of natural species with a vital cycle of birth, growth, maturity, decline and death" (Arrizabalaga et al. 12).

In its reframing of traditional paradigms, Fracastoro's *Syphilis* also poetically envisions the human body as an extension of earthly plots. This connection between corporeal and telluric spaces is made particularly evident in Nahum Tate's 1686 verse translation of the poem. While enumerating the symptoms caused by the pox, the speaker describes how he had observed "Puscles in the form of Achorns swell'd, / In form alone, for these with Stench are fill'd, / Whose ripness is Corruption" (25). Continuing his vegetable analogy, he proclaims to the reader,

As on a springing Plant, you have beheld The juice that through the tender Bark has swell'd That from the Sap's most viscous part did come, Till by the Sun condens'd into a Gumm: So when this Bane is once receiv'd within, With such Eruptions he shall force the Skin; And when the Humour for a time has flow'd, Grow fixt at last, and harden to a Node. (26)

Fracastoro's analogy refigures the infected human body as a tree, which, rather than growing stronger by the natural thickening of its "springing" excess of sap, gradually dies from the formation of hardening pustules instead. Akin to the hardened "Gumm" of trees, the pox's pustules are described by Fracastoro in both *Syphilis* and *Contagione* as "gummata" (or *gummositates*, in the original Latin), which he defines in the latter work as "a mass of phlegm" (Wright xxiii, 150-1). Describing an infected young villager, the speaker recounts how, as the disease progressed, one could see the former's "Spring of Youth decay, / The verdure dye, the Blossoms fall away" (Tate 29). In contrast to their vegetal analogues, whose fruitfulness signifies the climax of their vitality, the manifestation of acorn-shaped pustules on human bodies presages their demise.

In their encounters with seeds of disease, infected bodies in Fracastoro's work undergo a process of becoming, an altogether physical and metaphorical transformation into trees. To become infected with the pox in the Renaissance can therefore be understood as an "involution," a rhizomatic linkage that further intensifies and approximates relations between corporeal and verdant landscapes through the dynamic movement of pathological seeds across human and environmental boundaries (Deleuze and Guattari 238-9). At the core of this involution lies a network of human and non-human agencies, whose alliances are concretized not merely as material symptoms but also as semiotic signs. Combining medical and environmental rhetoric, Syphilis poetically highlights how diseased bodies are translated into sites upon which (hi)stories converge through the process of infection and, along with medical treatises, stand as readable parts of the pox's pathotext. Such bodies are not merely affected by their environs but are rather integrated into them throughout the course of the disease. If Fracastoro's seeds of disease manifest from the earth, then back to the earth they ought to return. It is perhaps apropos therefore that one of the most popular remedies that early modern physicians recommended for the pox was also derived from the Americas' "wilderness." Akin to pox-plagued bodies in Fracastoro's poem, guaiacum wood, a restorative obtained from guaiacum trees in the Americas, is endowed with narratives that connect natural, mystical, and sociopolitical discourses.

*Syphilis*'s third book, like many contemporary treatises, examines the American origins of the pox, reimagining the events of Columbus's 1492 voyage. In a modern verse translation, the poem opens with the "verdant Blessings that belong / To new discover'd Worlds," where "the sacred tree [...] That onely could this raging Plague [the pox] destroy" is said to have been found (Tate 56). Locating this other world, the speaker details how, "Far Westward hence where th'Ocean seems to boil / Beneath fierce *Cancer*, lies a spacious Isle," which has received the name of "Spain" as it was "Descry'd by *Spaniards* roving on the Main" (58 emphasis in the original). The island is said to be "Fertile in Gold but far more blest to be, / The Garden of this consecrated Tree" (58). As the Spanish navigators investigate their surroundings upon disembarking on the island, they find "a Flock of painted Birds [...] / With azure Plumes and Beaks of Coral hue / Which fearless through the Glades did seem to rove" (66). Upon shooting the animals, the explorers are met with a thunderous "humane Voice," seemingly belonging to "One of this feather'd Tribe," exclaiming,

You who have Sacrilegiously assay'd, The Sun's lov'd Birds, and impious slaughter made, Hear what th' enrag'd avenging God prepares, And in prophetick Sounds by me declares. Know, you at last have reacht your promis'd soil, For this is *Ophyre*'s<sup>4</sup> long expected Isle, But destined Empire shall not yet obtain Of Provinces beyond the western Main, The Natives of long Liberty deprive, Found Cities, and a new Religion give, Till Toils by Earth and Sea are undergone, And many dreadful Battels lost and won; [...] Nor end your sufferings here, a strange Disease, And most obscene shall on your Bodies seize; In this distress your Errour you shall mourn, And to these injur'd groves for Cure return. (68-9 emphasis in the original)

Presented in relation to religious and colonial contexts, the poem's island appears as a geographic space

of multivalence. Its location under "Cancer" and relation to Spanish navigators, who are said to have

named it "Spain," clearly ties it to island of Hispaniola, the first region visited and named by Columbus in

<sup>4. &</sup>quot;Ophyre" or Ophir is a region described in the Bible. Rich in natural resources, including gold, silver, and ivory, and exotic animals, the island was one of the main places from which King Solomon obtained his fortune (1 Kings 9:29, 10:22).

his first voyage to the Americas. As the poem's island is moreover described as a "Garden" in which a "sacred tree" is said to be found, it also signals an Edenic valence. Curiously, it is the Christian Spanish explorers who are poetically prophesied to disrupt the peaceful harmony of this *locus amoenus* by depriving indigenous peoples of their lands and liberties and enforcing a "new Religion" through "dreadful Battels." The poem's seemingly critical view of colonial exploration is rather curious, especially given how Richard Hakluyt, whom Fracastoro had met at Padua, credits the Italian physician in his *Viaggi et Navigationi* (Singer 1). It is possible that such a view may not have been derived from a response to colonial violence, but rather as a means to, similar to other treatises, place blame on Spanish voyagers for the appearance of the disease in Europe.

In contrast to previous early modern treatises, which characterize the pox as a result of immoral acts by indigenous peoples, Fracastoro's poem envisions the disease as a (super)natural punishment for colonialist enterprises, a punishment enacted not by a Christian god, but seemingly by the "Sun god," whose rage is demonstrated through nature itself. Colonial violence is portrayed not only through a sociopolitical spectrum, but through religious and ecological ones as well. The sin for which Spanish explorers are plagued is linked not to lust and depravity, but rather to greed and ecological devastation; their "Errour" is derived from indulgence and hubris, vices which counter the virtues of "long Liberty" that have been cultivated between the island's natives and the natural world they inhabit. As European nations, such as Spain, would subject the New World and its peoples to a naturalized European ethos, the violence enacted by colonialism appears to transcend physical injury, expanding into religious realms as well.

Evocative of both biblical and pagan beliefs, Fracastoro's poem appears to reconcile Christian and classical paradigms. Attempting to atone for their offense by praying to the sacred birds, the explorers are approached by indigenous men with faces "black as Jet," wearing nothing except for "wreaths of peacefull Olive on their Head[s]" (Tate 69). The explorers are invited by the indigenous group to join them for their annual festival to "Phoebus," the Sun god (70-1). As they partake in sacrificial feasts, the European men notice a group of pox-infected natives, whose pustules are cleansed with "boughs of healing Guaiacum," which are also "dipp'd in living Streams" in order to purge the "tainted Ground" with "holy Rites" (72). The village's King explains that the disease suffered by group was originally "sent from above to scourge that vicious Age, / And chiefly by incens'd *Apollo*'s Rage," which was originally provoked by a shepherd named Syphilus (75 emphasis in the original). According to the myth, the shepherd had been cursed with the malady after deciding to worship a human king and his fortune instead of Apollo (76-7). Wishing to appease the ire of the sun god and remedy the affliction of his plague, Juno had demanded the annual performance of purification and sacrificial rituals for the atonement of Syphilus, in exchange for which she blesses the land with guaiacum trees, the only effective remedy for those who suffer from the disease (103). The symbolic parallels between Juno's "sacred tree" and biblical trees, such as the Tree of Life and Jesus's "rood," would have likely been evident for early modern readers; similarly, the sprinkling of water with boughs of the wood would have likely reminded audiences of baptism rites, which were also understood as a corporeal and spiritual ritual of purification.

Guaiacum wood, in fact, had been endowed with a religious signification from its very first descriptions in early sixteenth-century works. Considered one of the most influential texts about the pox in the sixteenth century, Ulrich von Hutten's 1519 *De Guaiaci Medicina et Morbo Gallico (On the Guaiacum Remedy and the French Disease)* was one of the first treatises that argued for the use of guaiacum in pox treatments. Praising the tree for its curative powers, Hutten describes it as a gift from God, who had sent the disease and its cure to the same location in the New World; although it had been named "guaiacum" by its peoples, a more suiting name for the tree, he claims, would be *lignum vite,* meaning "tree of life" (Sig. B2<sup>v</sup>, B4<sup>r</sup>). Depicting the figure of the virgin Mary above a guaiacum tree, the frontispiece to Francisco Delicado's 1529 *Il modo de adoperar il legno de India* 

CEl modo Deadoperare el legno de India occidentale: Salutifero remedio a ogni piaga a malincurabile.



Longratia z privilegio: per diece annis

*Figure 3:* Frontispiece to Francisco Delicado's *Il modo de adoperar il legno de India occidentale.* Venice, 1529. "Preparation of guiacum (the 'Holy Wood')," Wellcome Collections, London, Attribution 4.0 International (CC BY 4.0).
*occidentale (The Way to Use the Wood of the West Indies)*, akin to Hutten, elevates the material status of the wood to that of a holy object (Figure 3). As historian Edward Test notes, many Christians in Europe readily accepted the tree as a miraculous cure, often hanging guaiacum branches on church walls and calling them "palo santo" or "holy stick" (109). Fracastoro's poetic descriptions of guaiacum as a "sacred tree" indicates an engagement with such narratives, as it envisions it as a remedy endowed with both natural and supernatural elements. By attributing a pagan valency to the tree, the poem signals that mythopoiesis—and, I would also argue, the creation of pathotexts—is never univocal in its symbolic representations, but rather emerges as an encounter of transtemporal cultures, a palimpsested weaving of traditions.

## **Cupid's Arrow and Healing Waters**

Found at the end of *Shakespeares Sonnets* (1609), Sonnets 153 and 154 stand as a puzzling close to the progression of poems about the Fair Youth and Dark Lady. Elaborated as a kind of poetical diptych, the two sonnets depict similar versions of the same conceit. Both poems open with the figure of a vulnerable, dormant Cupid, who has laid his love arrows by his side while slumbering. In either version, the unwatched arrows are similarly snatched by a chaste virgin, who uses the opportunity to quench the weapon's ardent properties by submerging them in a body of cold water. The deed inadvertently transforms the water into a "seething bath" (153.7), becoming a "healthfull remedy, / For men diseas'd" and a "soueraigne cure" against "strang[e] malladies" (154.11-2; 153.8). Cupid's arrow, however, is "new fired" from the speaker's "mistres' eie," finding its target in his breast and consequently making him "sick withal" (153.9-11). Pronouncing himself a "sad distemper'd guest," the speaker thus proceeds to seek a cure for his afflictions in such a bath, but discovers that his efforts are in vain, as "Loues fire heates water, [but] water cooles not loue" (154.14). The sole restorative for the speaker's disease, paradoxically, remains at the source of his ills, his "mistres' eye" (153.14).

Described by many critics as anacreontic in style, the poems have, arguably, been inspired by a sixth-century Greek epigram by Byzantine poet Marianus Scholasticus (Booth 533; Mirsky 6; Hutton

385; Healy "Anxious" 32). The six-line epigram, which appears in Latin translation for the first time in Eilhard Lubinus's 1604 ancient Greek poetic anthology, *Florilegium hoc est Veterum graecorum poëtarum epigrammata comprehensa libris septem*, reads,

Beneath these plane trees, detained by gentle slumber, Love slept, having put his torch in the care of the Nymphs; but the Nymphs said one to another: "Why wait? Would that together with this we could quench the fire in the hearts of men." But the torch set fire even to the water, and with hot water thenceforth the Love-Nymphs fill the bath. (qtd in and trans. by Hutton 386)

In his discussion of this epigram and its connection to Sonnets 153 and 154, James Hutton indicates that Marianus's conceit appears to have been particularly popular among neo-Latin poets in Europe, given how versions of it can be found in a number of derivatives or imitations, including in Johann Stigel's 1566-69 poem "De Cupidine ad Baias Dormiente" ("On Cupid Sleeping at Baiae") and Matthaeus Faetanus's "De Amore ad Baias Dormente" ("On Love Sleeping at Baiae") (387-99). While one cannot ascertain that Shakespeare was aware of Marianus's epigram, the resembling parallels shared between his final sonnets and these works stand as compelling evidence for an argument on intertextuality. I would argue, however, that in addition to these works, Shakespeare might have also been inspired by yet another popular trend observed in sixteenth- and early seventeenth-century belletristic and iconographic works, the one of pox myth-making.

Along with Juno and Apollo, Venus and Cupid were another pair of deities to gain prominence in discourses about the pox. Later labelled "lues venerea," since its transmission was linked to the "act of Venus," the pox became intimately connected to the goddess's as well as to her son's erotic nature (Arrizabalaga 8). Artistic and poetic representations of Venus or Cupid were often marked by symbolic associations to the venereal disease, reminding spectators of the dangers of unrestrained passion and lust. An illustration of such dangers can be perceived in Agnolo "Bronzino" di Cosimo's painting *An Allegory with Venus and Cupid* (c. 1545) (Figure 4). In the image, a crowned, nude Venus holds one of Cupid's



Figure 4: Agnolo Bronzino di Cosimo. *An Allegory with Cupid and Venus*. Florence, c. 1545. The National Gallery, London. (CC BY-NC-ND 4.0).

arrows just beyond his reach, as he twists behind her, sensually cupping one of her breasts and pulling her for a kiss. As Healy argues in her analysis of the painting, it is possible that, in addition to sexual desire, Cupid's kiss and fondling of Venus's breasts may be an indication of other methods of pox transmission, namely kissing and breastfeeding ("Bronzino's London Allegory" 6). Through chiaroscuro techniques and the tip of the arrow in Venus's hand, the painting appears to draw the viewer's attention to a more grotesque, darker figure behind the amorous pair. Seemingly screaming in pain as he clutches his head, the naked man appears to signal a warning to those, who,

like the viewer, are easily captivated by the sensual allures of love's pleasures. Discussing the strange man's physical details, Christopher Cook remarks how he appears to display several signs of the pox, including the swelling of his fingers, the beginnings of alopecia, and a "a sero-sanguinous discharge" from his toothless mouth, a detail frequently associated with the use of corrosive mercury treatments for the disease (459). Similarly standing in the shadow, both the man and the strange figure behind Venus seem to share a quality of physical deviance, which particularly in the case of the latter, transcends into monstrosity.

Also standing behind Venus and Cupid are Folly and Deceit, represented respectively by a flower-carrying cherub and a dragon-like figure seemingly wearing a mask of Venus's face (460). Akin to the suffering man, Deceit likewise stands in the dark, luring her victims with an innocent visage and a honeycomb in one hand while hiding a sharp sting behind its back. Above the scene are Time, characterized by a bearded man with an hourglass between his wings, and, possibly Oblivion or Night, whose both eyes and head appear to be missing. Clutching a celestial blue fabric on each extreme of the painting, the pair seems to battle over the scene in the foreground; while Oblivion/Night attempts to hide

the scene by pulling the fabric over the figures below her, Time violently counteracts her motion, seemingly trying to expose the figures in the darkness. The allegorical struggle seems to emblematize a well-known idea about the pox: whatever symptoms are deceitfully hidden in the darkness of the night shall eventually be uncovered by time.

Similarly using Cupid's arrow as a conceit for contagion, Jean Lemaire de Belges's 1525 Les trois comptes intitulez de Cupido et de Atropos allegorically constructs an origin myth for the pox. In the poem, Cupid accidentally exchanges arrows with Atropos, one of the three ancient Greek fates responsible for cutting humans' threads of life upon their death (Sig. A4<sup>r</sup>). Carrying arrows of death rather than love, Cupid drunkenly returns to Venus's castle of love and falls asleep on his mother; in his slumber, he drops one of the fated arrows on a nearby cushion, on which, without noticing the weapon, Venus's niece, Volupté, pricks herself when sitting down and falls poisoned. Hearing her niece's whimpers, Venus awakens to discover the dying nymph, who is promptly saved by Pasithea, one the Graces (Sig.  $A4^{v}-5^{r}$ ). As she notices the source of Volupté's suffering, Venus orders a nymph to wrap the foul arrows and throw them out of a window and into the castle's moat. Nonetheless, upon being submerged, the arrows' poison contaminates the waters, killing all the fish and birds that were swimming nearby (Sig.  $A5^{v}-6^{r}$ ). In order to cleanse the moat, Venus attempts to sweeten the waters with flowers and honey, but her efforts are to no avail; drawn by the moat's silvery hue and fragrant smell, amorous youths drink the still tainted liquid and become ill with its "serpentine poison," which cause "great flowerless buds" ("gros boutons sans fleur") to sprout on their faces (Sig. B3<sup>r-v</sup>). Akin to Fracastoro's poem, Lemaire's work also connects the pox's origins to ecological devastation and a corporeal transformation. The contamination of the moat by Atropos's arrows appears to metaphorically represent the disease's transmission through a sexual encounter, as the phallic-looking weapon pierces through the surface of Venus's waters, a potential conceit for women's moist quality. Once tainted, however, the same waters become capable of spreading its poison to all life nearby. While a woman, like Venus, may try to remedy the effects of such a poison with fresh aromas and a pleasing appearance, beguiling men who

unknowingly enjoy their pleasures, the dangerous nature of the pollutant cannot remain hidden and will rather emerge as the pox's horrid pustules on their bodies.

Given the ubiquity of iconographic and literary depictions of Venus and Cupid in connection to the pox, I would argue that Shakespeare's Cupid conceit may have likely been derived from the poet's engagement with such discourses and images. Rather than echo the threat of the love god's arrow, however, Shakespeare appears subvert the common trope that appears in both Lemaire's and Bronzino's work. The submersion of Cupid's arrow in sonnets 153 and 154 in a "vallie-fountaine" and a "coole Well," respectively, does not produce a source of corruption, but instead a "healthful remedy" for the "strang[e] malladies" afflicting the speaker (153.4, 8; 154.9, 11). The "seething bath" that is created from the heat of Cupid's arrow would indeed be recognized by many early modern readers as a popular remedy for the pox, the tub treatment. As F. David Hoeniger observes, Shakespeare would have been well aware of this treatment given how he mentions it in more than one of his works (244). Signifying both oddity and unfamiliarity, the term "strang[e]" that characterizes the speaker's maladies might possibly be indicative of narratives about pox's foreign origins and its long-held reputation of being a new, unknown disease in Europe.

Although he appears to subvert the arrow trope, Shakespeare also reinforces the topos of the corrupted woman in connection to the speaker's disease. Despite having been thrown into the water by Diana's maid, love's arrow is "new fired" at the speaker's "mistres eie" and, piercing his breast, leads him to become "distemperd" and "sick withall" (153.9, 11-2). In his treatise about contagion, Fracastoro comments on how infections, such as the pox, could also be transmitted by a "kind of ophthalmia with which the sufferer infects everyone who looks at him" (Wright 19). Indeed, contagion by sight was not only a matter of pathological conditions; one's moral integrity could likewise be affected by things one observed. Puritan John Rainolds warns readers of such dangers as he sorely proclaims, "how the maners of all spectators commonlie are hazarded by the contagion of theatricall sights" (Chalk and Floyd-Wilson 1; Rainolds 162-3). The "eie" from whence the arrow departs not only functions as an oblique bow, from which the arrow is rekindled and shot again, but also as a metaphor for the mistress's genitalia, as the

term could also signify an aperture or hole, such as in a "needle's eye" (*OED* n.1.II.9a). The latter connotation thus also suggests that the speaker may have been infected through a sexual encounter with his mistress.

As the sonnets' speaker receives the blow of his mistress's love arrow, he suffers from it both emotionally and physically. Although the "seething bath" that he visits may cure many sick men, it cannot provide any comfort for the speaker, as he is forever doomed to be his "mistresse's thrall," never finding a cure for his affections (154.12). The rhyming couplet's volta, however, signals how the speaker is not left without a solace; the same "mistres eye" from which "Cupid got new fire," paradoxically, is also where "the bath for [his] help lies" (153.13-4). Suggesting that this bath may not be completely effective, the imperfect rhyme in these final lines perhaps implies how the speaker himself is aware that returning to his mistress is not the solution to his malady (Duncan-Jones 424). Rather than "cool[ing] loue," it is likely that the speaker may perhaps desire the opposite, "new fire." If he cannot be cured by water, then perhaps he may hope to die consumed—and, I would like to imagine, also purified—by love's "holy fire" (153.5).

#### **CHAPTER 2**

# "I Will Plague Them All": Colonial Biopolitics and

### Smallpox Epidemics in the New World

In my previous chapter, I have explored the construction of mythological narratives in relation to the great pox, signaling how the enmeshment of pathological and environmental rhetoric in medical, historical, and literary texts further emphasized the shared vulnerability of and dynamic exchanges across corporeal, cultural, and environmental boundaries. Faced with a previously unknown disease, Europeans attempted to distance themselves both temporally and geographically from its origins by localizing its pathogenesis in the New World. Fixing on the indigenous body as morally and pathologically corrupt through an emphasis of its connections to the pox, historical and artistic representations of the Americas often portrayed indigenous populations as uncivilized and sexually unchecked. The great pox, nevertheless, was not the only disease linked to transatlantic exchanges that was responsible for a decrease in population levels, nor was Europe alone in facing the consequences of the influx of foreign pathogens in previously unexposed populations. Moving from the Old to the New World, this chapter examines the impacts of smallpox outbreaks in indigenous peoples in the Americas. Incidentally introduced around the end of the fifteenth-century, smallpox was responsible for the devastation of over ninety percent of indigenous populations (McGrew and McGrew 313), a tragedy which not only facilitated the overtaking of the region by colonial settlers, but also the amalgamation-most often through violent coercion—of its surviving indigenous peoples into forced labour.

Founded upon a logic of epistemological reformations, the race for colonial supremacy in the Americas relied upon the disruption and fracturing of indigenous relations with their natural environments. Along with arguments about the New World's status as *terra nullius*, a notion which, based on classical Roman laws, envisioned indigenous lands as unclaimed and therefore void of property ties to any singular nation, territorial expansion was understood by European countries, such as Spain, Portugal, and England, as not merely a legal right, but also a moral duty, the main rationale for which involved the cultivation of these lands and the disciplining and acculturation of their inhabitants into European social paradigms (Boisen 338). As Achilles Mbembe argues, "[*c*]*olonial occupation* [...] consisted in seizing, delimiting, and asserting control over a geographical area—of writing a new set of social and spatial relations on the ground." This process invariably resulted in "the manufacturing of a large reservoir of cultural imaginaries" and in the transformation of natural spaces into "the raw material of [settler] sovereignty" (79). To colonize, thus, was to not only impose physical brutality upon indigenous bodies, but also to establish an authoritative and symbolic control over foreign environments through a redefinition of their physical and metaphysical significations—an assault on both indigenous ethos and *oikos*.

Historically, attacks against indigenous populations have effectively secured biopolitical systems of governance by colonialist forces. Theorized by Michel Foucault, the concept of "biopolitics" designates a framework or political paradigm in which a sovereign power or state is seen to possess an overarching authority over its subjects' lives and their relations among each other and towards their environment (*History* 139). This authority is enacted through two branching systems of control denominated "anato-politics" and "regulatory powers." The branch of anato-politics is concerned with the perception of "the body as a machine"; through its mechanisms of power, anato-politics aims to establish a disciplinary control over subjects' physical bodies, both in terms of conditioning their willingness to obey and be integrated into economic systems through labour, as well as of administering their spatial distribution within a governed area (Society 244-5). Complementing this disciplinary control, the branch of regulatory powers encompasses the biological processes of bodies as a "species." Such processes include the oversight of natality and mortality rates, health and welfare, life expectancy, as well as subjects' social and environmental dynamics (244-5). In a biopolitical system, the sovereign power or state holds an absolute prerogative to "take life or let live" and uses both branches in order to secure its dominion over its subjects, as well as to maintain a social and economic equilibrium within its populations (History 136; Society 240-1).

Although Foucault claims that biopolitical systems are a product of seventeenth- and eighteenthcentury social changes, one can in fact trace the presence of their techniques of control in colonial interactions throughout the sixteenth century. As Greta LaFleur and Kyla Schuller note in their introduction of a recent issue of American Quarterly on biopower and early America, scholars have just begun exploring the intersections of biopolitics and settler colonialism (603). Analyses by scholars Scott Lauria Morgensen, Aileen Moreton-Robinson, Mark Rifkin, and René Dietrich have served as key foundations in the study of colonial biopolitical dynamics in various international contexts. In their works, they delineate the formation of biopolitical mechanisms of control, which were deemed imperative in the concretization of transatlantic and settler economic systems, the naturalization of European political philosophies in indigenous-settler relations, and the erasure of indigenous lifeways.<sup>1</sup> Joining this flourishing hub of discussions, I close in on the emergence of smallpox epidemics in sixteenth-century colonial settings, a phenomenon which, I posit, functioned as a central element in the establishment and maintenance of a biopolitical system of control over indigenous lives by settler colonists in the Americas. Through an examination of accounts of disease among indigenous peoples in Spanish and English early modern travelogues, I demonstrate how ideas of contagion were commonly instrumentalized by European explorers as a means to institute a biopolitics of domination over indigenous bodies and their modes of living in and interacting with their environments. Recognizing echoes in both historical and literary sources, I likewise determine how Shakespeare's *The Tempest* translates this instrumentalization of contagion into drama and illustrates the alienating effects of biopower's manipulative control of pathological significations on an indigenous individual's body and mind.

#### At the Aim of "Invisible Bullets": Smallpox and Colonial Encounters

Although smallpox had been endemic in European populations for centuries, it was far from being a fatal disease. First mentioned by Persian physician Rhazes (Abū Bakr Muhammad ibn Zakariyyā

<sup>1.</sup> René Dietrich uses the term "lifeways" in relation to "the plurality of Indigenous life in its social, cultural, political, and cosmological dimensions in individual, collective, and relational terms. Understood as manifest in various social, political, and communal realms, articulated in diverse varieties of cultural expression, and grounded in specific traditions and practices, Indigenous lifeways help to make up the manifold and multiple presences of Indigenous peoples within, alongside, and in opposition to ongoing settler-colonial formations" (1).

al- $R\bar{a}z\bar{i}$ ) in the tenth century, the disease was described as a common affliction in infants and a seemingly necessary condition that was responsible for purging impurities in one's blood (Carmichael and Silverstein 151-2). The same opinion is echoed in Fracastoro's treatise on contagion, in which he describes both smallpox and measles as "fevers" caused by a "seed of contagion" which "seem to attack everyone once in his life" but are "seldom fatal." As he continues his explanation, Fracastoro claims that smallpox can only be diagnosed with certainty once one can "observe whether *nature* is thrusting something up to the outer skin," more specifically "scattered, red spots which soon grow more plainly into pustules" (Wright 73-5 my emphasis). These pustules, he notes, ought not to be a reason for concern, as they represent "a kind of purification of the blood" caused by "a sort of crisis provided by nature," which, once completed, prevents the reappearance of the disease in the same victim. In the sixteenth century, the term "crisis" was commonly used in medical contexts to designate the turning point of a disease towards either recovery or death. Recovering from smallpox therefore seemed to be directly linked to nature's ability to reconcile the balance of one's humours through a kind of ecological purging rite prompted by seeds of disease. Notably, this corruption that is purged from the blood was considered to be the mother's vestigial menstrual blood that had been transferred to the child at the moment of birth (75). Fracastoro's description reconfigures the moment of infection as an ecological process, in which seeds of disease are figured as benign entities which cleanse—especially male—bodies from female humour excesses by absorbing these substances and germinating above the skin as pustules. Such pustules, I would argue, seem to represent an extirpation of a physiological connection between mother and child, a *partum-post-partum*, in which the mother becomes the one who virtually emerges from the child's body.

As Fracastoro's text suggests, the viral strains of smallpox that were circulating in Europe in the early sixteenth century were much less virulent than the ones that would eventually devastate populations in later centuries. As scientists would discover much later, the disease is in fact linked to two variants of the *variola* virus, namely *variola major* and *variola minor*, both of which were capable of provoking the same symptoms in different intensity levels. Smallpox initially manifests with the appearance of serum-

filled pustules on the surface of the skin, which later become enlarged with pus. In extreme cases, these pustules may begin to overlap, causing small ruptures to skin and scarring. It is during this stage that most victims become disfigured. Around the eighth or tenth day of the infection, scabs are formed, dropping off around the third week and leaving behind holes where pustules used to be (McGrew and McGrew 313). Variola minor is even today recognized as a "benign disease," which, despite causing facial disfigurement to some of its patients, is only fatal in approximately one percent of cases (Carmichael and Silverstein 149). This variety seems to be the one that most closely resembles both Rhazes's and Fracastoro's descriptions of the disease in their respective periods. Definitively more potent than its counterpart, variola major presents much higher mortality rates; even after inoculation methods became available in the eighteenth century, the *major* variety was responsible for death rates of twenty to thirty percent of European populations per annum (149). Both *minor* and *major* types are considered highly contagious as they are air-borne and can be transmitted either through breathing, sneezing, or coughing, all of which disperse microscopic lesion particles from one's respiratory tract into the surrounding air, or through shed scabs containing the virus (Riley 454; Cook 67). Scientific data indicates that prior to the end of the first half of the fifteenth century, variola major did not appear to be present in Europe, or if it was, it may have only assailed communities in very isolated locations (Carmichael and Silverstein 165).

The earliest account of a more virulent type of smallpox epidemic which appears to match the fatal potency of *variola major* seems to have occurred in Naples in 1544. In his descriptions of this outbreak, physician Giovanni Filippo Ingrassia noted that in the city of Palermo, "few escaped from smallpox": the death toll "surpassed five or six thousand dead children, with many [having] already grown up" (Corradi 780 my translation).<sup>2</sup> Italy seems to have been particularly affected by smallpox epidemics in the early 1570s, during which eight major outbreaks were reported over the first half of this decade (Carmichael and Silverstein 158-9). In England, the disease started to gain more prominence around the second half of the 1590s and beginning of the seventeenth century. Medical historian Charles

<sup>2.</sup> The original passage reads as following: "In Palermo, [...] pochi ne scapparono di quelli ch'ebbero le varole, che passorno 5 o 6 mila fanciulli morti con molti ancora grandi: il che nel'anno ancora 1544 vidi in Napoli."

Creighton comments that "from the beginning of the Stuart period, smallpox is mentioned in letters, especially from London, in a way as to give the impression of something which, if not new, was much more formidable than before" (II.434). Given the constant transatlantic traffic of commodities and peoples, which included not only European voyagers and merchants, but also African slaves and indigenous Americans, modern scientists have not yet been able to ascertain how and when the *variola* major was introduced to Europe or was brought there from other continents (Li et al. 15790-1). What remains certain is that, by the end of the sixteenth century, both *variola major* and *minor* had been introduced to indigenous populations in the Americas.

Letters and travelogues by European explorers clearly denote the prompt, devastating effect of smallpox in the New World. The earliest indication of the disease among indigenous peoples has been traced to Christopher Columbus's second voyage in 1493. In his relation of this voyage, Columbus writes that, upon reaching the Americas again, he had "placed ashore one of the four Indians whom [he] had taken from [Samaná] in the previous year," noticing that the latter was the only one "who had not died like the others from smallpox after departing from Cádiz" in Spain (Gil and Varela 242).<sup>3</sup> Writing in the Caribbean in 1519, Italian historian Peter Martyr d'Anghiera also remarks the fatal effects of the disease among indigenous Americans, relating how "the unfortunate indigenous peoples, whom [Spanish colonists] had used to exploit gold, had been reduced to a meager number." He continues:

[s]ince the beginning, [indigenous peoples] were consumed by dire wars, and famine has [also] killed many more in the year when they removed cassava roots with which they made bread for the nobles and refrained from sowing maize, [with] which is [made] the bread of the people; and the rest by outbreaks of smallpox, which was yet unknown to them and had, in the previous year, 1518, raged on them, like they were a flock plagued with a contagious breath. (Mártir de Angleria 346)<sup>4</sup>

<sup>3.</sup> The original reads as following: "solamiente envie vna carauela que pusiese alli en tierra vno de los cuatro yndios que alli auia tomado el año pasado, el cual no se auia muerto como los otros de Viruelas a la partida de Ca[d]iz."

<sup>4.</sup> The original reads as following: "se han reducido a exiguo número los infelices indígenas de quien se han servido [los Españoles] para explotar el oro. Desde el principio les consumieron duras guerras, y el hambre mató muchos más el año que arrancaron la raíz de yuca con que hacían el pan de los nobles, y se abstuvieron de sembrar el maíz que es le pan del pueblo; y a los demás las enfermidades de viruelas, hasta ahora desconocidas entre ellos, que en el año pasado, 1518, se cebaron en ellos como rebaños apestados con hálito contagioso."

D'Anghiera's characterization of indigenous peoples as "unfortunate" for being forced to mine for gold and relinquish their cassava roots to the Spanish suggests a hint of compassion and empathy for the former and moral criticism towards the latter. His comparison of the diseased groups to "a flock plagued with a contagious breath" nonetheless problematizes this sympathy, as it not only dehumanizes them through the animal simile, but also denotes a more paternalistic tone, possibly implying that, akin to a flock, their welfare should not have been neglected by their "shepherds," or in this case, by the Spanish who commanded them. Behind D'Anghiera's diction lies also an ideology of Christian pastoralism, in which the pastor or shepherd, usually represented through the Church, is likewise responsible for caring for the integrity and salvation of the masses or "flock." Commenting on the function of this ideology in the sixteenth and seventeenth century, Foucault states that Christian pastoralism is "an art of 'governing men," within which one may find "the origin, the point of formation, of crystallization, the embryonic point of governmentality whose entry into politics ... marks the threshold of the modern state" (Security 165). The appropriation of cassava roots for Spanish bread and relegation of corn, a seemingly unappealing source to the Spanish, to indigenous groups also reveals a reshaping of indigenous relations to their lands and systems of sustainability, which in turn directly impacts their topography, as well as their modes of living. It is precisely through such environmental and welfare dynamics that one may observe the roots of biopolitics in colonial relations.

D'Anghiera is not alone in his criticism of Spanish colonists and their treatment of indigenous populations and responsibility for importing smallpox into the New World. In his *Historia de las Índias* (*History of the Indies*), one of the most well-known sixteenth-century texts condemning colonial violence, Bartholomé de las Casas also links the appearance of smallpox on the island of San Domingo to the arrival of Spanish fleets. He describes that, in 1520, indigenous peoples were met with "a terrible plague, from which almost all of those present perished, leaving but very few alive. It was smallpox, brought by some person from Castille, that was given to the sad Indians." As he describes the misery of the latter, he observes that the epidemic was likewise exacerbated by famine, poor living conditions, and a "surplus of work, as well as little to no care to their health and well-being shown by those whom they always served"

(3.469).<sup>5</sup> Echoing d'Anghiera's description of "unfortunate indigenous peoples," de las Casas signals his empathy for the tragic condition of the "sad Indians" of San Domingo. Akin to the former's report, this later account seems to also perceive Spanish colonists as a type of political state instituted upon the land, whose duties would include tending for the welfare of local populations, who would be conceived as enslaved in this framework. I would argue that in both accounts the Spanish seem to illustrate a biopolitical approach towards indigenous life. By forcing indigenous peoples to work for the benefit of Spanish nobles, colonists demonstrate their regulatory control over indigenous bodies, exerting a disciplinary power over them through physical and physiological violence.

The sudden shortage in labour prompted by smallpox highlights how other regulatory biopowers were also deemed necessary for the Spanish. De las Casas remarks that once the Spanish finally "saw that the indigenous men were dying, the former started to miss the latter's work and, seeing that this shortage would continue, decided to apply some diligence in healing them. Nonetheless, their diligence was to little advantage, since it ought to have been applied many years before this" (3:469).<sup>6</sup> According to Foucault, epidemics are a part of a "set of phenomena," which a biopolitical state must attempt to "predict" and for which effects it needs to "compensate" in order to re-establish its systemic balance (*Society* 244, 249). It was precisely the jeopardizing of the current state of order by smallpox that mobilized the Spanish to attempt to intervene in the increasing mortality rates among indigenous populations. Although the Spanish did seek to counteract the aftermath of the widespread infection upon realizing the alarming decrease in local population numbers, they not only lacked the foresight of such consequences at the onset of the epidemic, but also the technological knowledge and means to treat and contain the highly contagious disease within non-immune indigenous groups.

<sup>5.</sup> The original reads as following: "[V]ino una plaga terrible que casi todos del todo perecieron, sin quedar sino muy poquitos con vida. Esta fue las viruelas, que dieron en los tristes indios, que alguna persona trajo de Castilla; [...] Allegábase a esto la flaqueza y poca substancia que siempre por la falta de comer y desnudez y dormir en el suelo y sobra de trabajos tenían, y el poco y ningún cuidado que de su salud y conservacíon siempre tuvieron los que dellos se servían."

<sup>6.</sup> The original reads as following "Finalmente, viendo los españoles que se les morían, comenzaron a sentir la falta que les hacían y habían de hacer, por donde se movieron a poner alguna diligencia en curarlos, aunque aprovechó poco a los más, porque debieron de haberlo comenzado muchos años antes."

More often, however, and especially during conflicts between explorers and indigenous peoples, epidemics facilitated the invasion of indigenous territories and expulsion or elimination of its inhabitants. Perhaps one of the most dramatic episodes in colonial history, Bernadino de Sahagún's 1577 *Historia general de las cosas de Nueva España (General History of the Things in New Spain)*—more commonly known now as the *Florentine Codex*—portrays how Spanish forces took advantage of an outbreak of smallpox in their attack against Aztecs in Mexico. Accompanied by illustrations drawn first by indigenous artists, Sahagún's account narrates how, for sixty days, indigenous Mexicans struggled against a "plague of smallpox" that had "killed innumerous people." Detailing the progression of the disease, he describes how "many indians [had] all [their] bod[ies] and all [their] face[s] and all members so filled and wounded by pustules that they could not move or toss in place nor shift from side to side" and consequently "died from hunger, since there was no one who could prepare [their] food." Those who were fortunate to survive, Sahagún concludes, were left blind or with their "faces pitted" by pockmarks (XII.f.53r; Figure 5).<sup>7</sup> Without any means to fight against the infection or the attacks of the Spanish forces of Don Pedro de Albarado and Captain Hernán Cortés, indigenous nations were rapidly overtaken and eliminated by their enemies.



Figure 5: An illustration of smallpox-infected indigenous Mexicans in Bernadino de Sahagún's *Historia general de las cosas de nueva España* (Florence, Biblioteca Medicea Laurenziana, MS Mediceo Palatino 218/219/220, 1577)

<sup>7.</sup> The original passage reads, "Ante que los Españoles que estauan en Haxcalla vinjesen a conquistar a mexico dio vna pestilencia de viruelas en todos los indios [...] tenjan todo el cuerpo, y toda la cara: y todos los mjembros tan llenos y lastimados de viruelas que no se podian bullir, ni menear de vn lugar, ni boluerse de vn lado a otro [...] esta pestilencia mato gentes sin numero[.] [M]uchos murieran de hambre por que no auja qujen podiese hazer comida[;] los que escaparon desta Pestilencia quedaron con las caras ahoyadas: y algunos los ojos quebrados."

Later reports by English explorers seem to present a more peaceful initial approach to indigenous populations in North America. In particular, Thomas Hariot's 1588 *A Briefe and True Report of the New Found Land of Virginia* details the beginnings of a relationship of amity between English travelers and Wiróan peoples on the island of Roanoke in 1585. Sponsored by Sir Walter Raleigh, the voyage was intended to survey and import New World goods, as well as to establish English defense bases in expectation of conflicts against Spanish armadas (Quinn 6). As a means to facilitate contact and prevent any antagonism between regional populations and his group, Hariot, a talented ethnographer and linguist, endeavored to learn some of the Wiróan's Algonquian dialects with some success (16). When describing the Wiróans, he observes that they are dressed only with "loose mantles made of Deere skins, & aprons of the same rounde about their middles; all els naked; [...] hauing no edge tooles or weapons of yron or steele to offend vs withall, neither knowe they how to make any" (Hariot 368-9). Not readily rejecting the possibility of future contentions, Hariot also notes that if Wiróans were to ever turn against the English, they would likely be outsmarted by the latter's "strange weapons and deuises" and consequently admit defeat (371). Technological superiority is indeed emphasized throughout Hariot's travelogue, especially in relation to the sharing of knowledge between indigenous and European groups.

It is precisely through European objects and knowledge that the English were able to obtain the trust and admiration of Wiróans, who perceived the visitors' items as signs of divine power. Hariot describes the latter's awe upon looking at

Mathematicall instruments, sea compasses, the vertue of the loadstone in drawing yron, a perspectiue glasse whereby was shewed manie strange sightes, burning glasses, wildefire woorkes, gunnes, bookes, writing and reading [...] and manie other thinges that wee had, were so straunge vnto them, [...] that they thought they were rather the works of gods then of men, or at the leastwise they had bin giuen and taught vs of the gods. (375-6)

Using this opportunity to also try to convert and catechize the fascinated group, Hariot shows them a bible and explains to them the significance of Christianity and scripture, only to find himself frustrated by their fixation with the book's materiality, rather than its content. As he continues his account, he details that, despite his effort to convince them that the book held no actual powers, Wiróans would yet "be glad to touch it, to embrace it, to kiss it, to hold it to their brests and heades, and stroke ouer all their bodie with it; to showe their hungrie desire of that knowledge which was spoken of" (377). Hariot's characterization suggests how, for the Wiróans, religion seemed deeply intertwined with performance and materiality, where corporeal contact with objects served as not only a way to demonstrate a pious devotion, but also perhaps a means to partake in its divine essence, to achieve a mystical, immaterial knowledge through minute exchanges across somatic borders. What the Wiróans may have obtained from such a contact, however, was rather less beneficial for them, as it is possible that the handling of such objects was precisely what facilitated the spread of Old-World pathogens into their communities.

The rise of newly-introduced infections among indigenous peoples seemed to put a stop to the flourishing of cross-cultural relations. Over the first days of an epidemic, Hariot details how he had been approached by Wiróans, who believed that the disease had been caused by an unintended offense to the Englishmen or their Christian God. He continues his description of the malady, noting that

There was no town where wee had any subtile deuice practised against vs, we leauing it vnpunished or not reuenged [...] that within a few dayes after our departure from euerie such towne, the people began to die very fast, and manie in short space; in some townes about twentie, in some fourtie, in some sixtie, & in one sixe score, which in trueth was very manie in respect of their numbers. [...] This disease also was so strange, that they neither knew what it was or how to cure it; the like by report of the oldest men in the countrey neuer happened before, time out of minde. (Hariot 377-8)<sup>8</sup>

Similar to d'Anghiera, Hariot remarks how the disease was unknown to the Wiróans, a consternation that would likewise be mirrored by Europeans upon their return with the great pox. Although it does not mention further details about the symptoms that plagued the indigenous peoples, the account implies a potential reason for the appearance of the mysterious disease. In particular, the juxtaposition of the locals' "subtile deuices" practiced against the English, which are left "vnpunished" and "not reuenged," suggests how the devastation provoked by the epidemics may have been prompted by a supernatural figure favouring the explorers, such as God.

Indeed, the attribution of smallpox outbreaks to God in indigenous populations was rather common in European travelogues. Writing about Cortés's journey in 1529, Dominican friar Francisco de

<sup>8.</sup> In his commentary of this passage, David Beers Quinn speculates that this disease could have been smallpox or measles (Hariot 378 n.2).

Aguilar recounts a violent battle struck between the Spanish and indigenous Mexicans, claiming that "when the Christians were exhausted from war, God saw fit to send the Indians smallpox" (Fuentes 159). European explorers were not alone in believing that epidemics had been sent by a supernatural force; indigenous peoples often perceived these events in the same manner. According to Hariot, some Wiróans shared the belief that the disease that had been inflicted upon them had been sent by the European's Christian God, attributing the appearance of the malady in their communities to a solar eclipse and the sighting of a comet, both of which occurred a few days prior to the manifestation of their first symptoms (380-1). In response to this perception, Hariot neither agrees nor disagrees, but rather merely states that "there are farther reasons th[a]n I see fit at this present to be alleadged" for the sudden epidemic burst in indigenous populations (381). Given how astral conjunctions and celestial phenomena were also perceived as potential harbingers of infection in Europe, it is noteworthy that Hariot seeks for other causes of infection. His ambivalence towards astral explanations may perhaps suggest how medical understandings in England were already shifting towards a more flexible acceptance of new, contemporary explanations of disease causation.

Upon realizing the correlation between the appearance of the English explorers and the sudden surges of diseases and noticing that not one of Hariot's men were likewise ill, the Wiróans began to demonstrate some apprehension towards the visitors. In what can only be described as a moment of clairvoyance, some of the indigenous men are seen "prophes[ying] that there were more of [Hariot's] generation to come, to kill theirs and take their places, as some thought the purpose was by that which was already done" (Hariot 380). The explorers that would arrive after Hariot were imagined to be "in the aire, yet inuisible & without bodies, & that they by [the Englishmen's] intreaty [...] [would] make the people [die] in that sort as they did, by shooting inuisible bullets into them." Some Wiróans believed that Hariot and his group were already capable of shooting such bullets and infecting them from a distance (380). Curiously, this perception of contagion through external particles of matter, or "invisible bullets," seems to parallel both Fracastoro's and Paracelsus's ideas about seeds of disease. According to Hariot, a number of indigenous groups, akin to Paracelsus, also suspected that the epidemics were linked to astrological causes (380-1). Void of any immunity or defenses against these bullets, the Wiróans increasingly became more paranoid about their surroundings.

It is precisely this sense of paranoia that enabled Hariot and his group to establish a temporary state of biopolitical control upon Wiróan populations. In his discussion of a sovereign state's regulatory power, Foucault states that one of biopolitics's main domains includes the manipulation of a subject's relations to others, themselves, and their environments (Society 245). Through the effect of introduced epidemics, Hariot managed to achieve a similar kind of spontaneous manipulation of indigenous understandings of pathological causation, leading to their alienation towards the natural elements that circulated around themselves and their environs. In his seminal chapter "Invisible Bullets," Stephen Greenblatt argues that, by reinforcing the Wiróans' notion that the English are in control of disease, "Hariot tests and seems to confirm the most radically subversive hypothesis in his culture about the origin and function of religion by imposing his religion-with its intense claims to transcendence, unique truth, inescapable coercive force—on others" (30). That Hariot is interested in strategies of manipulation and subversion is clear from his very first observation about the peoples on Roanoke, in which he appeases any concerns by potential sponsors, claiming that the latter ought not to worry about potential interferences by indigenous groups in colonists' plans to use these lands for plantations; echoing Machiavelli's principles, he also adds that the Wiróans "shall have cause both to feare and love vs, that shall inhabite with them" (Hariot 368 my emphasis). Although Greenblatt locates "religion" as the central locus of subversion through which indigenous bodies are influenced and controlled, I would posit that Hariot's (bio)power also depends on the reshaping of indigenous perceptions about disease and its relations to natural environments and their ecologies, as well as to foreign bodies. In both English and Spanish colonialist contexts, disease and contagion stood as key instruments in both the physical and psychological violence inflicted upon indigenous peoples in the Americas. Evidence of this kind of colonial weaponization of contagion is indeed not limited to the scope of travel narratives, but also make their way into literary representations of the New World and its inhabitants, such as in Shakespeare's The Tempest.

### "This Misshapen Knave": Infection and Deformity in The Tempest

One of Shakespeare's final works, *The Tempest* theatrically reproduces the problematic dynamics of early modern New World encounters between indigenous populations and European voyagers. Central to the play is the turbulent relationship between Prospero, a former Neapolitan duke and magus, and Caliban, the sole human inhabitant of the island on which the former washes ashore. Many postcolonial readings of Caliban claim that his indigenous status is strongly evidenced by his name, which scholars claim may be an anagram for "cannibal," indicating further connections to Michel de Montaigne's influential essay "Of the Caniballes," a travel account of indigenous Brazilians and one of Shakespeare's source texts for the play (Vaughan and Vaughan 47). Other scholars surmise that Caliban's name may also be linked to the play's supposed geographic location. In their extensive study about the character, Alden and Virginia Vaughan argue that that sixteenth-century cartographic labels for Caribbean islands, which often identified the region by the word "Caribana," can be connected to Caliban's name both phonetically and geographically (27-9).<sup>9</sup> This geographic connection is further reinforced by how Prospero has once ordered Ariel to travel to the Bermudas region and for Caliban's worshipping of Setebos, a Tierra del Fuego "deuyll" which is first described by Antonio Pigafetta, a member of the Portuguese crew of Ferdinand Magellan's navigations in South America, and whose account is translated into English and included in Richard Eden's 1555 and 1577 translations of Peter Martyr d'Anghiera's The Decades of the Newe Worlde or West India (Shakespeare I.ii.229; Martyr d'Anghiera fol. 219<sup>v</sup>). I would also note that this connection between Caliban and "Caribana" likewise highlights an intimate bond between the character and the region, a bond that is reflected not only through birth, as he is the only human who is truly native to the island, but also through his name, reflecting how both he and his environment share a fluid state of authority over each other's physical and topographical bodies; the island belongs to Caliban, but he too "belongs" to the island.

<sup>9.</sup> Vaughan and Vaughan also note how Shakespeare does use the term "cannibal" in relation to actual human-eating practices in other plays, including *Coriolanus*, 3 *Henry VI*, and *Othello*, likewise contending that if Shakespeare wished to make this same connection with Caliban, then there would be no reason for him not to make the characters engage in such practices as well, which is not the case (30).

Another prominent aspect of Caliban's characterization often discussed by scholars is his disfigured appearance. Described as a "misshapen knave" by Prospero and "a savage and deformed slave" in the play's list of *dramatis personae*, Caliban's physical semblance is often interpreted as a reflection of his distorted scruples, which are emphasized by his rustic manners and supposed attempt to rape Miranda in the past (Shakespeare 162, V.i.268; Vaughan and Vaughan 9-10). In many versions of the play, directors have perceived in these characteristics, as well as in Prospero's and other characters' use of animal-based imprecations towards Caliban, a possible indication that the latter straddles an ontological line which locates him in a liminal space between human and animal (10). I would argue, however, for yet another interpretation of Caliban's deformity, one that recognizes the conjunction "and," which joins "savage" and "deformed slave," not only in terms of equivalence or *sequitur*, but rather as a temporal marker for effects provoked by colonial encounters. In this reading, I wish to advance a perception of Caliban as originally a "savage," in consequence of his isolated social condition, who becomes transformed into a "deformed slave" due to his interactions with Prospero and Miranda.

Although Caliban's initial encounter with Prospero and Miranda is not portrayed on stage, descriptions of past events on the island provide potential hints to the origins of his deformity. Upon scolding Ariel for his impertinence, Prospero commands him to recall how Sycorax, who had imprisoned the airy spirit inside the trunk of a pine tree, had first been sent to the island "with child" and how, prior to the magus's own arrival, the place had been void of any "human shape [...] save for the son that she littered [t]here, a *freckled whelp*, hag-born" (Shakespeare Lii.277, 281-4 my emphasis). Often left uncommented by editors, the adjective "freckled" stands as one of the few objective physical traits ascribed to Caliban. I would posit that, rather than being a simple facial detail, this particular trait may in fact be connected to the prevalence of diseases in travel narratives. Similar to the indigenous peoples who were deeply scarred by smallpox in the Americas, Caliban may also have been a victim of the exchange and dissemination of foreign pathogens brought by Europeans, namely Prospero and Miranda; his spotty appearance and deformity may indeed be linked to the same disease that afflicted actual indigenous peoples in the New World. In his 1545 *The Regiment of Life*, translated by Thomas Phayre, French

physician Jean Goeurot describes that those suffering from smallpox often displayed a "face redde in coloure and *fleckled*" (sig. S7<sup>r</sup> my emphasis).<sup>10</sup> As evidenced by d'Anghiera's, Sahagún's, and Hariot's accounts, reports about the devastation caused by epidemics in indigenous communities were common in the period, and, even at the beginning of the seventeenth century, smallpox was already gaining prominence, particularly in Italy, for its lethality. Caliban's description as a "freckled whelp," therefore, may possibly be an allusion to the early periods of a smallpox infection, which, as Simon Kellwaye's treatise observes, could also "assault the eyes [and] leaue [...] deformit[ies] behind" (sig. L2<sup>v</sup>).

Caliban's seemingly animalistic features likewise evoke the image of a body marked by consequences of an infection. Upon encountering the islander during a storm, Trinculo wonders whether the former is a "man or a fish," later declaring him to be "half fish and half a monster," a "most scurvy monster" (II.ii.24-5, 152, III.ii.28). In the early modern period, the term "scurvy" was used both in connection to the eponymous disease, which plagued many sailors in transatlantic navigations, and to other infections marked by subcutaneous symptoms, often providing the sense of scabbiness (*OED n.*1.a., adj.1.a.). In addition to expressing his contempt, Trinculo's description of Caliban as "scurvy" may in fact indicate the presence of skin eruptions or scabs, which could likewise resemble scales, recalling the appearance of fish. The term was also applied in E. Grimeston's 1604 translation of José de Acosta's *The Natvrall and Morall Historie of the East and West Indies* in relation to a scurf-causing infection found in cattle in the New World, a signification which can be linked to Trinculo and Stephano's characterization of Caliban as a "mooncalf" (Acosta 465; Shakespeare II.ii.105).

The historical context for the word "mooncalf" also further reinforces the character's connection to disease. As historian Preserved Smith details in his philological study of the term, "mooncalf" can be traced to two distinct narratives. One of these narratives relates to the birth of a deformed calf in Freiberg, Saxony, in 1522, which was described as having "its hind legs [...] straight like a man's" and "its skin

<sup>10.</sup> The *OED* defines "fleckled" as "[m]arked with little flecks or spots; dappled; also of a person: *freckled*" (adj. my emphasis), listing Shakespeare's 1597 and 1599 quartos of *Romeo and Juliet*, in which the spellings "flecked" and "fleckeld" respectively appear.

[hanging] in loose wrinkles" with "a large fold over the head and shoulders resembling a monk's cowl" (Smith 355). In England, the bizarre creature's story became popularized upon the publication of John Brooke's 1579 satirical pamphlet Of Two Woonderful Popish Monsters, which describes the animal as a "moonkish calfe," whose body is covered with "the scales of Fishes" and who cannot "hyde [...] his dronkenness, his gluttonye, his whooredoms, his vnlawfull voluptuounsnesse" while defending "the Pope and [...] his barberous, and tyrannicall kingdome" (sig.  $C2^{v}$ ; Smith 359). The second narrative is linked to Thomas Cooper's 1565 Thesaurus linguae romanae & Britannicae, in which he defines the Latin term "*mola*" (literally a mole), found in Pliny's works, as "a piece of fleash without shape growen in the womans woumbe, which maketh hir to thinke she is with childe: a moone calfe" (sig. GGgg6<sup>r</sup>; Smith 360). The term "moon-calf" also seems to have been in vogue in dramatic texts around the beginning of the seventeenth-century, appearing in George Chapman's Bussy d'Ambois (1607) and Edward Sharpham's The Fleire (1607). The latter work seems to have been rather popular among audiences, as it was printed in 1607, 1610, 1615, and 1631, and may in fact have served as a possible source of inspiration for Shakespeare's Italianate comedies (Munro 39; Redmond 126). In the play, Antifront, a Florentine duke, is usurped of his dukedom by a lord of Pisa. Searching for his daughters, Susan and Nan, who had fled the Italian political conflict prior to the beginning of the play, Antifront travels to England, adopting a disguise. In an early scene of the play, Susan and Nan are wooed by Petoune, a "Traueller and a great Tobaconist," whose wits are described as being comparable to that of a "Moone-calf." As the scene progresses, Petoune is called a "silly fellow," "an arrante asse," "a verie Idiot," and most notably, "a most monstrous puppy" (Sig. B4<sup>v</sup>-C1<sup>r</sup> my emphasis). This last description is also echoed in *The Tempest* in relation to Caliban merely a few lines after he is called a "mooncalf," when Trinculo refers to him as a "puppy-headed monster" (II.ii.151-2).

By using the word "mooncalf," Trinculo and Stephano seem to evoke the multivocality of the term within English cultural and textual contexts. Upon being given alcohol to drink by Stephano, Caliban is seen worshipping the latter like a God, an act that would likely make early modern audiences identify him with the "moonkish calfe" in Brooke's pamphlet and the silly antics of Sharpham's Petoune. At the same time, his corporeal deformity, likely characterized by skin eruptions, would likewise not only remind one of the connection between "mooncalf" to Pliny's moles, but also redefine Caliban's body as a disease in itself, virtually reimagining him as a cankerous mass which may have fallen from Sycorax's womb. Through this redefinition, Prospero's epithet "hag-seed," in turn, could also be endowed with another signification, one tied to Fracastoro's and Paracelsus's theories of contagion, in which Caliban could be recognized as a "seed of disease" as well (Shakespeare I.ii.366). If the latter is indeed plagued by smallpox, such a reimagining would likewise emphasize Sycorax's motherhood and influence on Caliban's deformity, since most early modern physicians, akin to Fracastoro, would perceive her menstrual blood as the responsible factor in the eruption of the disease's signature pustules and the disfiguring of its victim. Just as Caliban can be figured as Sycorax's disease, Sycorax too could be understood as part of Caliban's condition.

Nonetheless, the play also problematizes this interrelation between Sycorax and Caliban's disfigurement since it simultaneously suggests that Prospero's curses may have instead been the cause of his animalized deformity. Upon having his orders challenged by Caliban, Prospero states that he "shall be pinched / As thick as honeycomb, each pinch more stinging / Than bees that made 'em" (I.ii.326-31). "Pinching" seems indeed to be Prospero's favourite choice for torture, as the action is mentioned as a punishment in the play in six different occasions, including when the magus charges goblins to make Caliban, Trinculo, and Stephano, "more pinch-spotted [...] Than pard or cat o'the mountain," vowing to "*plague* them all, / Even to the roaring" (IV.i.258-61 my emphasis). If one were to imagine what Caliban's skin would look like after having been "pinched" to the point of resembling a "honeycomb," they would certainly conceive a picture not dissimilar to what indigenous victims of smallpox actually looked like at later stages of the disease. His face and body would probably become deformed by the ridges and slopes of the pinches, forming "pits" and "spots" similar to the pox marks described and artistically depicted in Sahagún's account. Thus, through his command on the island's natural and supernatural life, Prospero seems to produce a form of torture that would cause comparable deformities to those occasioned by smallpox infections in the New World. Leaving long-lasting marks and perhaps even

causing disfigurements, Prospero's words are what induce a "supernatural pathogenesis" on the island, in which spirits and fauna stand in as his infective "seeds of disease."

Akin to Hariot's subversive manipulation of epidemics to subdue Wiróans on Roanoke, Prospero's power over Caliban lies precisely in his ability to enforce obedience by threatening the islander with disease symptoms. Different from Caliban's pestilential invocations, Prospero's curses are genuinely capable of inflicting pain upon his opponent. As the islander later comments, he is often tormented by Prospero's spirits, whom he describes as being

like apes that mow and chatter at me And after bite me, then like hedgehogs which Lie tumbling in my barefoot way and mount Their pricks at my footfall. Sometime am I All wound with adders, who with cloven tongues Do hiss me into madness. (II.ii.1-14)

Caliban's exasperated description signals how Prospero's powers are directly linked to the weaponization of ecological life on the island. Similar to the Wiróans' notion of infective "invisible bullets" and Fracastoro's and Paracelsus's conception of seeds of disease, Caliban envisions his afflictions as unseeable, but very material, entities capable of piercing the surface of one's skin and engendering pathological symptoms. Ariel is in fact one of such entities, whom Prospero bids to tread "the ooze / Of the salt deep, / To run upon the sharp winds of the north / To do [him] business in the veins o'th'earth" (II.ii.252-5). The magus's requests suggest, especially through his specification of oceanic "ooze[s]" and earthy "vein[s]," how his infective power, like Sycorax's, seems to be related to putrified substrates from marshy environments. Curiously, his attacks upon Caliban likewise appear to resemble symptoms suffered by victims of smallpox, as patients were described as often being assailed by "an ytch and a fretyng of the skyn as yf if had been rubbed with nettles, pain in the head and in the backe [...] feare in the slepe [...] *shotyng and prykyng thorough all the bodye*" (Goeurot sig. S7<sup>r</sup> my emphasis).

Echoing the paranoia of indigenous peoples towards disease, Caliban's speeches reveal a profound obsession with contagion. His first lines in the play expose his fixation with infection, as upon being summoned by Prospero, he exclaims,

As wicked dew as e'er my mother brushed With raven's feather from unwholesome fen Drop on you both. A southwest blow on ye And blister you all o'er. (I.ii.322-5)

Drawing on Sycorax's putative magic, Caliban's curses reflect an understanding of disease based on ecological sources. His invocation of a "wicked dew" from an "unwholesome fen" is suggestive of a pathogenesis derived from natural putrefaction, reminiscent of contemporary theories by Fracastoro and Paracelsus, as well as of classical understandings about infective vapours; likewise, his mentioning of "southwest[ern]" winds would clearly remind audiences of classical perceptions of disease linked to Hippocratic and Galenic traditions. Indeed, Caliban's comprehension of contagion seems to function as a possible reflection of early modern physicians' views about the topic, which did not uphold a univocal understanding of pathological causation, but rather reconciled classical and contemporary theorizations by merging selective conceptions from both. His preference for "blister[s]" as the desired symptom for Prospero's punishment could also potentially indicate that the disease wished upon the magus, to which Caliban refers as "a red plague," is smallpox (Lii.365). By wishing for the appearance of such marks on Prospero's body, Caliban might hope not only for retribution for the abuse that the former has inflicted on him for years, but also for the development of a deformity similar to the one with which he is burdened himself.

By reshaping Caliban's relations to his native environment and ascertaining his dominance through indirect physical violence, Prospero, like Hariot, asserts his biopolitical authority to effect both a disciplinary and regulatory control even from a distance. His authority not only conditions Caliban's obedience at a corporeal level, but also intervenes in the latter's biological processes, including his ability to roam the island freely and reproduce, by "sty[ing]" him in a "hard rock" and estranging him from his own land (I.ii.343-4). In contrast to actual colonial dynamics, however, Prospero's biopolitical state is carefully balanced. As Caliban reminds him early on in the play, he is "all the subjects that" the magus has, a fact that Prospero himself acknowledges to Miranda when he claims that the two "cannot miss him" as "he does make [their] fire, / Fetch in [their] wood, and serves in offices / That profit [them]" (I.ii.312-4, 342). Prospero's biopower, thus, is not absolute; his "ultimate dominion" is not asserted by killing his subjects, as that would consequently signify the end of his sovereignty on the island, but rather through his control over Caliban's—and arguably Ariel's—lifeways.

As a means to reinstate his dukedom, however, Prospero must surrender his biopolitical sovereignty, a concession that necessarily divests him of his powers to govern the spirits of the island. Upon becoming Alonso's subject once again, Prospero politically descends into a position of noble deference and, akin to Caliban, starts to feel the pangs of his "infirmities" and the reduction of his physical strength, which, as he states in the epilogue, has become "most faint" (IV.i.160, Epilogue 2-3). Despite his feeble state, Prospero does achieve what Hariot purposed to do in Roanoke: the ability to make Caliban, the island's only indigenous person, both "love" and "fear" him. Claiming the latter as his "thing of darkness," Prospero's final acknowledgement may also be seen as his last act of sovereignty (V.i.275 my emphasis); in contrast to Ariel, Caliban is not granted his freedom, but is rather relegated to the status of a "thing." Through this assertion, Prospero virtually delivers his last strike upon Caliban, inflicting a "death" that is not biological, but political. As LaFleur and Schuller aptly observe, "[b]iopolitics does not merely regulate the 'quality' of the population by determining the relative value of its members to the viability of the whole. It also determines, in the first place, who counts as a living unit, capable of existing over time, and who or what might be a temporary phenomenon, bound to a specific geographic and temporal moment" (611). Whether the island is, similar to Roanoke, to be devoid of a "human shape" again or become the plantation grounds of Gonzalo's commonwealth fantasy is left to the audience's imagination. What remains certain, however, is that, akin to devastated indigenous settlements in the New World, the traces of Caliban's existence on the island will most likely dissolve "into air, into thin air [...] Leav[ing] not a rack behind" (IV.i.150, 156).

By exploring the interrelationship between settlers' biopower and contagion theories, one is able to recognize how the imposition of colonialism was—and in fact still is—not solely limited to physical brutality, but likewise transcends into indigenous peoples' affective and spiritual bonds with their lands and ecologies. To analyse biopolitical relations in early modern travel accounts and representations is to attempt to make its mechanisms of colonial violence and dominance visible and to concretely trace their cultural and environmental impacts from past to present. Especially in times of political and health crises, it is by recognizing transhistorical patterns linked to diseases and their (re)presentations within indigenous communities that one may find opportunities for affirmative actions by challenging such mechanisms and opposing the physical and ecological violence and processes of erasure that come as consequences of colonial biopolitics.

#### CODA

## **Pathotexts and the Disease Biopolitics**

#### of Here and Now

It is nothing short of uncanny to find oneself writing about disease and contagion amidst a global pandemic. Over what seemed like endless quarantine days, my reading time was divided between historical texts about early modern poxes and news articles about COVID-19's alarming infection rates worldwide, both of which warned their worried readers about invisible threats looming outside. Often their voices resembled one another in striking parallels: with each controversial debate on media that argued about whether the new coronavirus could be seen as "just a flu" or something more threatening, I could also hear echoes of William Bullein's 1576 admonitions against those who believed that the great pox, a "sicknesse [that had] waxeth common" in his time, was "onely a Feuer" (Bellemare; Biller; fol. xlvii<sup>r</sup>). As I would continually hear and watch nations continue to publicly attack China for manipulating exotic wildlife in food markets, a practice which may have inadvertently facilitated the interspecies transmission of COVID-19, I would recognize the same rhetorical patterns of discourse present in the Renaissance; the rationalization behind voices who persistently refer to the newly discovered disease as a "Chinese virus" is likely not so different from that of European nations in sixteenth-century treatises and discourses about the pox, which described it as a "French," "Spanish," "Neapolitan," or "Indian" sickness or "evil" (Chiu; Arrizabalaga et al. 24, 57; Lowe Sig. B1<sup>v</sup>; Fabricius 31). As Sander Gilman argues, contagious diseases have been historically understood through distinctions between healthy observers and diseased "Others"; in these relations, such "Others" often represent an "alter ego" of the observer that serves the purpose of glorifying difference between the two sides (8). Similar to early modern writers, certain current politics rely on blaming tactics, rather than tackle the causes and means of contagion, which differently from sixteenth-century texts, are no longer just merely theorized, but rather known and verified.

While identifying these patterns, I found myself at a strange vantage point both in response to the texts that I was examining and to the moment in which I was—and indeed, still am—living. As I followed

the strands of the pox's pathotext and smallpox's biopolitics in the early modern period, I could likewise observe the unravelling of COVID-19's own strands of pathotext and the development of biopolitics both locally and globally. In North America, indigenous sovereignty and the right to institute a control border to regulate access to reserves have already been challenged by settler states, provinces, and municipalities. Such was the case with Shinnecock Nation, located on Long Island in the state of New York, which experienced an influx of settler tourists in the early summer, who, trying to escape the coronavirus pandemic by fleeing to their summer homes and cottages, would cross into indigenous lands and not follow pandemic preventative guidelines, opting instead to openly socialize at the risk of infecting entire local communities (Leonard 165-6). Especially given the proved lethality of COVID-19, settler governments' challenges to indigenous sovereignty reinforce a biopolitical control over indigenous territories and bodies. As Shinnecock scholar Kelsey Leonard observes, within pandemic contexts, settler bodies become "disease vectors that reproduce borders and are boundary-setting in furtherance of biocolonialism" (165).

I find it apt therefore to finish this project by offering this space in my thesis not to other early modern European representations of disease, but rather to indigenous voices who are composing unique strands of COVID-19's pathotext in the present. One of such strands is "In the Time of Plague," by Kiowa novelist and poet Navarre Scott Momaday:

We keep indoors. When we dare to venture out We are cautious. Our neighbors Smile, but in their eyes there is Reserve and suspicion. They keep their distance, As we do ours, in mute accord. Much of our fear is unspoken, For there is at last the weight of custom, The tender of rote consolation. We endure thoughts of demise And measure the distance of death. Death too wears a mask. But consider, there may well be good In our misfortune if we can find it. It is Hidden in the darkness of our fear. But discover it and see that it is hope

And more; it is the gift of opportunity. We have the rare chance to prevail, To pose a resolution for world renewal. We can be better than we have ever been. We can improve the human condition. We can imagine, then strive to realize, Our potential for goodness and morality. We can overcome pestilence, war and poverty. We can preserve our sacred purpose. We can Determine who we are in our essential nature And who we can be. We are committed to this end For our own sake and for the sake of those Who will come after us. There is a better future, And we can secure it. Let us take up the task, and Let us be worthy of our best destiny.

For Momaday, disease presents itself not as divine retribution for human sins, but rather as a "gift of opportunity" for "a resolution for world renewal." It is with his resolution that I close this project, hoping too that our "better future" may come through a global sense of understanding between individual and collective bodies and their profound links to their environs.

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