

Sophia Booth Magnone

Microbial Zoopoetics in Octavia Butler's *Clay's Ark*

In Octavia Butler's 1984 science fiction novel *Clay's Ark*, humanity is under threat. A microorganism from the planet Proxima Centauri 2 has hitched a ride to Earth by colonizing the bodies of a crew of astronauts. Most of the astronauts die; the lone survivor finds himself utterly changed. He is no longer human but human-plus-microbe; the organism remakes his body, his senses, and his will to serve its own interests. His new purpose in life, he finds to his dismay, is to propagate an alien species. The compulsion to infect other humans is irresistible. Left to its own devices, the organism threatens to take over the entire human race. This brief sketch of the plot of *Clay's Ark* recalls an extensive tradition of narratives of infection in the science fiction genre. The plague narrative tends to represent disease as a rampant invader, threatening the purity and safety of the community, the home, the human body itself. In a genre so often motivated by the drama of Us versus Them, infection can be the ultimate Other: nonhuman, irrational, and utterly amoral.¹ Humans cannot communicate or reason with such a silent, senseless enemy; their only hope for survival is to destroy it.

Yet in the hands of Octavia Butler, a writer known for her nuanced and open-ended depictions of unconventional partnerships and communities, the question of us versus them, self versus other, becomes much more complicated. In her plague story, the nature of infection makes it impossible to extricate "us" from "them"; characters soon realize that the return to a pure human self, purged of all contaminants, is an unrealizable fantasy. And unlike most iterations of the infection narrative, *Clay's Ark* gives some thought to the infectious organism as a being in itself, a fellow planet-dweller with life and purpose, though these may remain incomprehensible both to human characters and to the reader.² Infection, in this novel, requires more flexible and open-minded strategies from humans than mere eradication. What would it mean, Butler asks, to approach an infectious organism as an unavoidable cohabitant, rather than a hostile invader to be eliminated? How might the human-microbe muddle engendered by infection change one's understanding of subjectivity, will, and ethics? What is lost, and what might be gained, by this new form of interspecies agency?

I propose to read *Clay's Ark's* speculative infection as a radically nonhuman form of signification — what I call, following Aaron Moe, a microbial zoopoetics. Moe explains in his 2014 book *Zoopoetics: Animals and the Making of Poetry* that the emerging field of

zoopoetics has two related aims. One is to trace the ways in which animal gestures, vocalizations, and movements have shaped the making of human writing. It is in this sense that Jacques Derrida first coins the term in *The Animal That Therefore I Am* (2008), referring in passing to “Kafka’s vast zoopoetics” (6), his extensive and imaginative literary treatment of animals. The second and more ambitious undertaking of zoopoetics is to consider how animals themselves may participate in poiesis, and how humans might practice the attentiveness necessary to experience it as such.

Zoopoetics focuses on the process by which animals are makers. They make texts. They gesture. They vocalize. The sounds and vocalizations emerge from a rhetorical body, a poetic body, or rather a body that is able to make. This assumes agency... It casts animals in the verb of making. (Moe 11)

Zoopoetics, for Moe, pries open some realms that historically have been tightly sealed off from nonhuman beings. Through its lens, poetry, textuality, intention, and agency no longer appear as exclusive human property. The study of zoopoetics addresses itself toward the diverse array of utterance, inscription, and performance undertaken by animals themselves, whether or not these forms might be pleasing, meaningful, or even legible to a human reader. It requires one to remain permanently open to new ideas of who or what might constitute an author, and who or what might constitute a text.

In his book, Moe looks at some particularly poetic animals: cats, mimic octopi, beluga whales. In their intimacy with humans, the wonder they inspire, or their vocal prodigiousness (respectively), these beings might be said to resonate with human aesthetic and literary traditions, and thus to count as apt zoopoetic candidates. At the same time, Moe places no specific boundaries on the types of animals that might participate in zoopoesis. Perhaps it seems a stretch to seek zoopoetics in less recognizably “poetic” species — even in microorganisms, most of which are not even classified as animals. But such stretches of the human imagination are precisely what is required in order to critique and dismantle the long-standing anthropocentric tradition, in which nonhuman species tend to be valued only in terms of their utility for and compatibility with humans. Broadly speaking, the more different from humanity a species appears, the harder it is for humanity to recognize it, care for it, and treat it justly.³ In the struggle for more universal recognition of the more-than-human world, speculative fiction has an important role to play alongside ethology, psychology, philosophy, and other “real-world” disciplines. SF opens a space to imagine possibilities for species-being that have not yet been, or perhaps cannot be, proven by

science. What would the world be like, for instance, if the agency of nonhuman species was unmistakable and irrepressible? How would, and should, humans contend with their changing status?

In this sense, *Clay's Ark* considers the implications of an unanticipated and highly speculative form of zoopoetics. Individual human bodies are rendered into microbe-authored texts, while on a larger scale, an extraterrestrial agenda writes itself into the narrative of the human race. The novel makes it impossible to regard this as a friendly project: the organism's impact is violent, unsettling, and often fatal. Yet the straightforward model of interspecies warfare cannot capture the ambivalence of the human-microbe relationship. The notion of zoopoetics moves away from the classic script of invasion and defense to reframe this relationship in terms of the politics of textuality. It allows readers to consider how an infectious microbe might be not just a germ but an author, writing difference into the text of the human species, no matter how ugly or abnormal the result might appear to human eyes. This microbial author might even, Butler suggests, act as a collaborator, co-producing, with its host, a radically new kind of being.

With its proposal of interspecies symbiosis, *Clay's Ark* anticipates a shift in the models and metaphors that structure human understanding of the biological world. The novel stages a cataclysmic event — the arrival of an extraterrestrial infection — to reveal a situation that was already true: that the being called a human is actually a diverse interspecies collective. Although symbiosis, a pattern of close, long-term, often mutually beneficial interactions between organisms of different species, was once considered a relatively rare phenomenon, it is now recognized more generally in plants, fungi, and animals including humans. The research on symbiosis, still very much ongoing, has recently received significant attention in public scientific and medical discourses. An oft-quoted statistic is that microbial cells outnumber human cells in the human body by about ten to one, encoding about 100 times more genetic information than human DNA and making up one to three per cent of the body's mass (*NIH Human Microbiome Project*). Much remains to be established about the significance of all the organisms sharing human space, but already there is evidence that the composition of the human microbiome affects one's immune system, metabolism, mental health, even one's personality and behavior.⁴ That is, in significant ways, microorganisms participate in making people who they are. Microbiota that inhabit the skin, mouth, gastrointestinal tract, and more inscribe their own particular codes into the regular operations of the body; in a sense, they act as microscopic authors, helping to write individual humans into existence.

The microbiome has thus emerged as an interdisciplinary lightning rod, sparking over a decade of conversation within and across the sciences, social sciences, humanities, and popular culture. At its most radical, it represents a profound challenge to some fundamental notions of identity in the Western philosophical tradition: the species, the individual, the free-willed human. In the words of biologists Lynn Margulis and Dorian Sagan, the microbiome undermines the myth of the self-contained individual, showing us instead that “we people are really walking assemblages, beings who have integrated various other kinds of organisms — that each of us is a sort of loose committee” (19). The conventional metaphor of invasion and defense does not suffice for these ongoing interspecies relationships: Margulis and Sagan recast microbes and humans as committee members engaged in necessary and collective work.

Through this lens, the human microbiome illustrates how the intricate interspecies networks that Donna Haraway calls “companion species” operate even within our so-called selves. The most provocative suggestion of the microbiome is not simply that humans live in intimate proximity to other species, but that the notion of species itself, the stable boundary dividing “us” from “them,” is called into question. We are who and what we are because of large- and small-scale relationships with human and mostly, nonhuman others. Companion species are defined not just by coexistence but by co-constitution. Haraway proposes that “To be one is always to *become with* many.... The partners do not precede the meeting” (*Species* 4), while Anna Tsing declares that “Human nature is an interspecies relationship” (144). The field of multispecies ethnography has emerged as a mode of anthropology that refuses a narrow focus on the anthropos, asking not, “What is the essence of the human?” but rather, “What is the human becoming” in relation with other kinds of beings? (Kirksey, Schuetze, and Heimreich 4). And importantly, it is not only familiar, charismatic, or highly visible critters that have been recognized in these multispecies accounts.⁵ Dangerous, annoying, forgettable, and invisible species have secret histories and agencies of their own. Tsing, for instance, follows fungi to document ten thousand years of interdependent companionship between humans and mushrooms. Heather Paxson introduces the idea of a “post-Pasteurian” mode of approaching the microbial world in order “to invest in the potentialities of collaborative human and microbial cultural practices” (17) and embrace, rather than inoculate against, “microbiosociality” (39).

Paxson develops the notion of microbiosociality to tell a story about artisan raw-milk cheesemaking, an endeavor that, while socially and legally controversial, is voluntarily undertaken and managed by humans toward a desired end. *Clay’s Ark* tells a very different story, in which humans’ microbiosocial entanglement has far more dramatic

effects. Their bodies recruited as a medium for the survival of an alien organism, they are reinvented, driven by a new purpose not of their own choosing. Their individual lives are now construed as secondary effects. As Eli, the surviving astronaut who serves as “Patient Zero” for the infection on Earth, puts it to his newly infected companions, “We’re the sporangia of the dominant life form of Proxi Two — the receptacles that produce the spores of that life form. If we survive ... it will be because we fulfill our purpose — because we spread the organism” (192). And yet, although this relationship is both involuntary and severely distressing for human hosts, it also confers benefits. Those who survive infection find themselves extremely resistant to disease and injury; they enjoy increased strength, faster reflexes, and a drastically heightened sensorium. The mechanism of the organism is not to prey upon its host, but to combine with it, infiltrate the species boundary and entangle itself with humankind on a cellular and genetic level. It is not a parasite, but a symbiont. And survival, post-infection, is a collective, interspecies project.

Symbiosis is not utopia: the microbiopolitics of Biology = Destiny. *Clay’s Ark* is part of Octavia Butler’s Patternist series, four novels that trace the development of a future Earth society in which the human race has been split into three subspecies organized in a strict hierarchy: the telepathic Patternists rule, while non-telepathic “mutes” serve them, and the Clayarks are classified as savage beasts to be exterminated.⁶ *Clay’s Ark* falls diegetically in the middle of the series, but was published last. It takes place on twentieth-century Earth, before the widespread division of the human species. While the other three books focus on Patternist characters, this one provides an origin story for the maligned Clayarks; the events of the novel make it clear that Clayarks are the eventual result of mutation introduced into human genes by the extraterrestrial microbes. *Clay’s Ark* switches between two narratives, designated Past and Present. In Past chapters, the astronaut Eli helplessly infects a family who rescues him from dying in the California desert; together, the members of this reluctant new household figure out how to survive their infection together. The Present chapters take place some years later; through trial and error, Eli’s infected community has established some guiding principles and has managed to isolate itself from the larger world, adding (that is, abducting) new members when necessary. These chapters focus on three such new members, the doctor Blake Maslin and his twin teenage daughters Rane and Keira, and their changing reactions to being conscripted into Eli’s fold.

The story is told from the perspective of multiple human characters, switching among Eli, Blake, Keira, and Rane; it offers no direct insight into the microbe’s own point of view, only the way the humans perceive it. Butler repeatedly stresses that the alien organism is not “intelligent” in any recognizable way. Yet it is exceptionally effective at

making things happen in the world by manipulating “higher” organisms to serve its agenda. Without intelligence, consciousness, or intention, the microorganism manages to wield formidable agency. At first glance, microbial agency seems completely distinct from the kind practiced by humans. Everything the microorganism does is oriented toward survival and reproduction; its agency is described as a pure biological drive, one of the many mindless, mechanical forces that ensure the regular operation of the natural world. Humans, in contrast, act deliberately, based on reason, ethical principle, and personal choice — at least, so goes the ideal of the autonomous human subject so critical to much of modern political and philosophical discourse. Yet there are plenty of forces in play in human behavior besides personal autonomy, and humans, too, are subject to certain forms of automaticity. “What’s the chemical composition of love?” wonders one infected character. “Human babies are ugly even when they’re normal, but we love them. If we didn’t the species would die” (93). There is a continuity, in other words, between an infected state and the regular experience of being human; both involve a complex array of forces and influences that produce one’s self, largely unconsciously. The microorganism emerges as one agent among many at work in the human body, albeit one with particularly obvious effects.

And while this agent may not be sentient enough to have a stated politics, it does have a clear agenda for its hosts, with ambivalent political repercussions. On the one hand, symbiosis is linked in this novel to a radical and transformative intervention into the anthropocentric status quo; this positive politics is the focus of my reading. On the other hand, symbiosis is not imagined here as a utopian prospect; in several respects, especially with regard to gender, the microbe seems to impose some of the worst, most oppressive human norms onto its host population. Analyzing the changing trope of infection in science fiction, Laurel Bollinger notes that “to take embodiment seriously means to recognize the degree to which embodiment will shape consciousness ... even as doing so risks falling into the trap (or being accused of falling into the trap) of biological essentialism” (395). *Clay’s Ark* certainly risks falling into that trap. The microbe enacts a highly conservative agenda that brooks no resistance from its human hosts. Its implicit slogan is “Biology is destiny” — a notion antithetical to feminist, queer, and transfeminist scholarship, and that sums up a depressingly familiar gender politics. In the spirit of ambivalence and complexity that is so integral to Octavia Butler’s work, I highlight three aspects of the microbe’s “Biology is Destiny” agenda in order to complicate my own conclusions about the potentially revolutionary force of symbiosis in this novel.

The first is that reproduction — of the microbe, and thus of the human host population — becomes the single most important task post-infection. According to the organism, reproduction is synonymous with survival; a life that doesn't reproduce is a failed life. And so every infected person is driven to reproduce. As one character observes, "The organism had turned them all into breeding animals" (106). This reproductive coercion affects everyone, but its effects predictably fall most heavily on the novel's women, who are compelled not just to have sex but to become pregnant as often as possible, and then to devote themselves to raising their children. The men, on the other hand, are compelled to impregnate as many women as possible. With effort, male characters resist this urge toward a harem mentality and maintain more mutually fulfilling partnerships; the community practices a kind of loose monogamy, with both parents contributing to childrearing. But there is no opting out. Reproductive agency is completely overruled — in fact, because everyone *desires* to reproduce, the concept becomes meaningless. In one case, the organism even reverses a woman's tubal ligation (undertaken long before infection) to restore her fertility (206).

The second implication is an absolute heteronormativity. "Compulsory heterosexuality," described by Adrienne Rich as a social and political institution that is difficult, but not impossible, to resist, is here reified as a biological imperative. Under the new symbiotic regime, any kind of non-procreative sex — or, for that matter, celibacy — is not only forbidden, but actually made impossible. Infected humans' libidos are rewired so that only sex with reproductive potential is eroticized. The effect is an implicit erasure of queerness altogether, both in the specific sense of non-heterosexual partnership, and in the more general sense of opting out of heteronormative practices of biological reproduction.⁷ The novel leaves unanswered the question of what the organism would do if it encountered a homosexual, asexual, transgender or genderqueer host: would it "cure" these (ostensibly) non-reproductive states of being, just like it "cured" the woman's self-appointed infertility?⁸ Butler evades this problem by writing all of her characters as securely heterosexual before their infection; but it is clear that the new biosocial organization of this symbiosis excludes sexual and gender diversity.⁹ The novel thus runs the risk of aligning its microbe with the pernicious and pseudoscientific agenda of "homosexual conversion therapy," by suggesting that sexual orientation, as an offshoot of reproductive capacity, is a biological fact that, under certain conditions, can be forcibly changed.

The other side of this compulsory heterosexuality is that it fundamentally precludes notions of sexual agency and consent. Rape is normalized as a mode of sexual encounter, except that it ceases to make sense as "rape": there is no clear perpetrator or victim, because everyone involved is compelled into the act by their new reproductive

urges. As one woman reassures Blake, who is worried about the safety of his daughters in Eli's household, "Our men don't rape. They don't have to" (39). No infected woman is a "victim," because she hungers insatiably and often indiscriminately for sex. Thus the microbe's agenda biologically substantiates the tired sexual tropes that feminists have been struggling against for decades: men who cannot help themselves, women who always want it even if they say they don't. Post infection, seduction becomes literally irresistible, an affective compulsion that precedes the physical violence of rape; sex is not a choice but a necessity, a bodily function that a man and a woman both *desire* but neither necessarily *wants*. In this community, sexual encounter is always problematized: one's desires are never fully under one's own power. There are loving, fulfilling sexual and emotional partnerships in this novel, but there are also moments of distressing brutality, such as the rape of the young newcomer Rane, who, as a recent infectee, ambivalently experiences the act from two perspectives, resistance and active acceptance:

It was as though she were two people. One wanted, needed, was utterly compelled to have this man — perhaps any man.... Yet some part of her was still *her*. That part screamed soundlessly, weeping, and clawed with imaginary fingers at the ape's ugly, stupid face.... Then the organism controlled her completely. Her body moved only under its compulsion and her feelings were abruptly reconciled with her actions. Part of her seemed to die.... Even as she screamed, she knew that what she was doing was necessary. (184)

It is important to the story that Rane's rapist is not a member of the infected community; the rape occurs after Blake and his daughters escape Eli's compound and are captured by a passing road gang. And yet that plot detail, like the characters' universal heterosexuality, rings as contrivance, a way for the novel to sidestep some of its most difficult questions. Casting Rane's rapist as an uninfected man, an unnamed criminal who is identified only as an "ape," lets Eli and his family members off the hook — outsiders may commit rape, but "our men" are exempt. The brutal horror of the passage, however, illustrates the extreme depths to which the infected community might fall if they let the microbe overwrite their precious remaining social and sexual mores. Rane's own microbe-induced desire for her rapist heightens, rather than eases, the trauma of the act. Following the logic of the novel, one might speculate that a woman who was not a newcomer like Rane, one who was more used to and accepting of the ways infection had changed her, might not experience this act as traumatic. And yet from a feminist perspective, it might seem both impossible and irresponsible to

imagine a world where rape is not traumatic. The part of Rane that “seem[s] to die,” her claim to bodily and sexual autonomy, is a human value to which many readers might want to cling, even in the process of critiquing anthropocentric norms of subjectivity.

The final implication of the microbe’s “Biology is Destiny” agenda is that it builds a logic of violence, competition, and predation into the structures of the human community. Microbial hosts are driven to infect others; they do their best to control this urge in order to prevent the infection of the entire human race, but they must, from time to time, recruit — that is, kidnap and imprison — new hosts. No one will be convinced to join; it can only happen through coercion. Uninfected humans thus become a form of prey for the human-microbe symbionts: although the secondary intention is to integrate new recruits into their fledgling community, the primary goal is to exploit their bodies as a medium for microbial growth. Inevitably, some of the newly infected will die — an acceptable loss, according to microbial logic, as long as growth increases overall. The microbe’s predatory outlook toward others is echoed in the prodigious appetites of the infected, who hunger above all for raw meat and view small animals, like the chickens they raise, as ambulatory food rather than living creatures. This “survival of the fittest” mentality has a final implication within the community itself. From a purely biological perspective, the men are all rivals, competing for the limited resource of female fertility; consequently, due to their heightened senses, the men smell threatening to one another, and they must actively resist the urge to fight. Women, too, get possessive of their sexual partners, a jealousy eased only by pregnancy. The infected community — men, women, microbes, food animals — thus illustrates some of the uglier aspects of Haraway’s “companion species.” The sustenance of some depends on the exploitation of others, animals and humans; relations of use are unavoidable and “dying and killing are not optional” (*Species* 74). Intimate companionship is no interspecies utopia.

The symbiotic revolution: rewriting kinship and identity. Yet despite the alarming characteristics of infection outlined above, despite the ways that its social and biological reorganization of its human hosts echoes a retrograde political agenda especially with regard to sexuality and gender, the future that *Clay’s Ark* imagines is not simply dystopian. Infection and symbiosis also present a set of revolutionary challenges to entrenched human norms about species, identity, and kinship. Disrupting these norms, Butler suggests, might be ultimately beneficial to humankind — less tangible than the microbe’s gifts of increased strength, speed, and sensory capacity, but in the long term, even more valuable. Infection inaugurates a new kind of existence for human hosts, forcing them to reckon with the nonhumans that participate in their bodies, minds, and families. In what Maria Aline Ferreira calls “a biopolitical strategy for adaptation and survival,” they must do the difficult work of unlearning some of the values and

practices they consider most essential to their own species-being; “forgoing part of their sense of humanity is the only option that gives them a chance to continue living” (Ferreira 407). The transgressive effects of symbiosis are not necessarily welcomed by the human hosts. But their resistance, Butler suggests, might have less to do with anything inherently oppressive about their new symbiotic existence, and more to do with their attachment to an anthropocentric status quo that is shown to be as misinformed as it is destructive.

One of the irrevocable principles of Eli’s infected community is its need for isolation. Other than occasional forays into the outside world to find new members, the group remains under strict quarantine. But isolation, combined with the influence of an organism that is completely indifferent to existing institutions on Earth, offers the infected hosts a unique opportunity to rewrite human culture from the ground up, excising damaging and oppressive cultural constructs. Butler employs a cast of characters that is diverse in terms of age, gender, class, and race in order to demonstrate from different social positions what might be gained by the collapse of human society: the symbionts build their community as far as possible off the grid that racism, sexism, and other structural inequalities have made of the established world. People whose previous social positions condemned them to inferiority can become valued participants in the new microbial regime.

The character Keira most directly illustrates this potential. As a young, biracial woman who suffers from untreatable leukemia, Keira stands at the intersection of multiple, deeply entrenched forms of oppression. Disabled and diminished both by her illness and by a racist, sexist world, Keira is silent, sickly, and breakable as a human. From the moment she learns the strange truth about the men who abduct her family, she is intrigued by the idea of infection as a possible alternative to her current situation. Unlike her sister Rane and father Blake, both of whom are horrified by Eli’s people and dead set on escaping infection, Keira is open to the possibility of integration and survival with the infected community. Unlike her sister and father, both accustomed to the privileges of a healthy, autonomous body, Keira is able to appreciate the positive changes incurred by the microbes, which empower her both literally and figuratively. She grows stronger and healthier, more able to assert her own agency and desires, as her leukemia is managed and apparently cured by the microbial reorganization of her body. Keira can say unequivocally that “the organism had given her a great deal” (203). At the novel’s epilogue, she is the only member of her family left alive, by then healthy, pregnant, and partnered with an infected man. Leaving normal human society behind

means extricating herself from systems of privilege based on race, sex, and ability to become a fully recognized and respected member of the community.

The loss of Keira's blood kin, both killed by uninfected outsiders, is clearly tragic. At the same time, her transition to the larger affective network of the infected community, notable for its strength, intimacy, and diversity, reflects the novel's interest in exploring alternatives to conventional family forms. Survival, in the damaged world of *Clay's Ark*, depends on letting go of longstanding rules determining who counts as kin. The novel resonates richly with Donna Haraway's call to contemporary feminists "to unravel the ties of both genealogy and kin, and kin and species ... to make 'kin' mean something other/more than entities tied by ancestry or genealogy" ("Anthropocene" 161). Indeed, unraveling the knotted threads of genealogy, species, and kin is a recurrent problematic in Butler's oeuvre. Many of her books revolve around the need to build community among a diverse and fractured group under difficult circumstances. Kilgore and Samantrai characterize this motif as an "insistence on hybridity beyond the point of discomfort" (357); Butler's racially and culturally hybrid families "challenge the ubiquitous real-world assumption that communities are an expression of homogeneity" — community, in her stories, tends to take shape as "affiliations that proceed, however, bumpily, from the fact of difference" (356).

The infected humans, varied in terms of race, ethnicity, background, age, and sex, model Butler's motif of hybrid community. They are not born together, nor do they choose one another — they are united by the coercive force of the microbe. Yet they regard one another not just as cohabitants or co-survivors, but as family. The ties that bind them are first biological, but then, and equally importantly, affective: they would not last long without the strong relationships of care they have built atop microbial compulsion. Forming this family takes considerable effort: new adult members must be forcibly abducted, and most, like the Maslins, begin by hating their captors and plotting escape. Yet over time, they become fiercely loyal to the motley group they come to regard as their family. Before being kidnapped by Eli, "I didn't have anybody," recounts a young infected woman named Lupe. "So I was alone. I'm not alone here. I'm part of something, and it feels good" (85). Like the revolutionary new order that Deleuze and Guattari propose in *A Thousand Plateaus*, the symbiotic community forms by contagion, not filiation, and is thus able to link heterogeneous terms, dodging the gridlock of human social structures and creating access between beings marked as categorically different from one another: a black geologist, a Japanese-American violinist, the white daughter of a rural rancher, a Latina trucker. The novel marks this open form of kinship as a specifically anti-racist project: multiple characters draw a parallel between the infected family and the Maslins' own multiracial family (Blake is

white, while his deceased wife Jorah was black). Both of these families are viewed as illegitimate and suspicious by a hostile society that equates kinship with sameness. Yet both demonstrate the possibility, and the necessity, of affirming strong and loving kinship across traditional lines of division.

But kinship, in *Clay's Ark*, means more than the bonds uniting diverse groups of humans. The cultivation of difficult community, in Butler's novels often involves nonhumans too: extraterrestrials in the novel series *Lilith's Brood* (1987-89) and the novella "Bloodchild" (1984), and vampires in her final novel *Fledgling* (2005). While these relationships are often laborious, requiring the careful and ongoing negotiation of extreme difference, the humans, aliens, and vampires in Butler's works tend to share certain key characteristics, such as intelligence, communication, and empathy, that make such negotiation possible. The microorganism of *Clay's Ark* is altogether different. The humans cannot address it as a fellow, cannot look at, talk to, or touch it. But it, too, is part of this strange family: it not only enables kinship bonds between humans, it also is itself their kin. Microbes do not make self-evident kin for human beings; yet as Haraway insists, "kin is an assembling sort of word" ("Anthropocene" 162). The practice of assembling across extreme forms of difference — differences of culture, species, scale, sentience—is the only path toward a mutually flourishing world, for humans and others. Bacteria and fungi join humans, other animals, plants, and more in the giant and complex kinship network of the "earth-bound" (161).

The novel's infection constitutes a speculative case of these human-microbe kinship relations. Post-infection, the human host and the microbe guest are not simply living with one another—they have become one another. Blake, anxious to apply his medical expertise to the bewildering circumstances of his capture, analyzes a flesh sample from one of the infected women using his portable medical kit:

"Unidentifiable microbes," the small screen said. It was able to show him tiny, spiderlike organisms in her flesh.... They had made themselves at home in human cells in a way that should not have been possible.... [They] had sought out higher game than bacteria and managed to combine with it without killing it. They had changed it, however, altered it slightly, subtly, cell by cell. In the most basic possible way, they had tampered with Meda's genetic blueprint. They had left her no longer human. (51-52)

From Blake's point of view, being a human means embodying a state of pure humanness, down to every last cell. The microbial cells that he diagnoses in Meda's

body thus expel her from the category: she is no longer human because she has been touched by a nonhuman enemy that has “tampered with” her, made “game” of her. Within Blake’s medical framework, Meda’s body appears as a battleground upon which microbe invaders have tragically defeated human defenders. The doctor voices a tendency that Ferreira notes in many characters across Butler’s fiction: “the fear of penetration and invasion or infection by the alien other, the tinkering with genetic identity at the molecular level” (407). Blake’s horror prevents him from viewing this cellular encounter as a collaboration — as a new multispecies assemblage, rather than the triumph of one species over another. But characters who have settled into their post-infection bodies come to appreciate the benefits of symbiosis. After all, they do, in fact, still inhabit their bodies along with the newcomer that has altered but not destroyed them. Intimately linked on a cellular level, the human and the microbe assemble into a new kind of organism. Blake’s professional urge to separate the microbial invader from the “proper” human cells fails to do justice to the complexity of the assemblage, which yokes human and nonhuman in inextricable and irreversible relation.

The humans’ microbial kin participate in everything they do: their appetites, desires, bodily operations, and physical abilities are far different from those of a regular human. But the most visible form of their kinship occurs in reproduction. Infection puts a strange twist into genealogy, turning it into the production of difference rather than the reproduction of the same. Children born into this community have multiple parents: a human man, a human woman, and a teeming colony of microorganisms. This multispecies heritage produces children that are visibly and functionally other-than-human: vaguely feline quadrupeds with precocious strength, mobility, and sensory intelligence.

At one point, an animal whizzed past—something lean and brown and catlike, running at a startling speed. It was much bigger than a housecat. Rane stared after it, wondering what it had been.... “Not ‘it,’ ” [Ingraham] said, “ ‘him.’ That was one of Meda’s kids.... Our kids look like that,” he said. “You may as well get used to it because yours are going to look like that too.” (78)

Amidst all the changes infection brings about, the animality of their children—that is, the ways they fail to conform to human norms — is the part many humans find most disturbing, at least at first. Eli, for one, is appalled by the alien body and habits of his first child Jacob, and spends weeks trying to enforce the lesson of bipedality: “A human child walked upright. A boy, a man, walked upright. No son of Eli’s would run on all fours like a dog” (175). Eli’s first assessment of his son is rigidly prescriptive,

patriarchal, and disciplinary: rather than embrace the boy as he is, Eli can only see Jacob's difference as a pathological failure to achieve the benchmarks of a good son. But this anthropocentric perspective is not sustainable: although it takes work for these adults to stop seeing their own offspring as animals, monsters, and "things" (145), as more and more babies like Jacob are born to the fledgling community, parents start to question their ingrained belief in a categorical division between humans and animals. By the time the Maslins arrive, the community is fiercely devoted both to their children and to the principle that difference does not preclude kinship.

The various effects of the microorganism — the changes it brings about in hosts' bodies, the extraordinary abilities of their children, and the expansion of kinship bonds toward a multispecies social assemblage — constitute an accumulated challenge to one of the organizing principles of human existence: the notion of a definitive boundary between humans and animals. Symbiotic existence reveals the human/animal boundary as a fiction, an idea with a lot of ideological significance, but intrinsically valueless. Losing the security of unambiguous humanness is an upsetting process for many of the characters in this book: it represents not only a loss of their species-based identity, but also a loss of status in a culture that ranks humanity above all other kind of life. But ultimately, Butler suggests, the world is better off without this fiction. In the context of the *Patternist* series as a whole, the human/animal boundary is shown to have devastating effects. It is never a neutral distinction, but a politically motivated hierarchy that legitimates those deemed "human" to domesticate and exploit those deemed "animal." As Sherryl Vint explains, the human/animal boundary "is constructed to mark the recognition or denial of kinship" (287), both in the worlds of Butler's novels and in the Western metaphysical tradition; its function is morally prescriptive, rather than biologically descriptive. Subsequent novels of the series reveal that the Clayarks, descendants of Eli's clan, are eventually excluded from the category of personhood, becoming no more than beastly "animals" in the eyes of the reigning *Patternist* "humans."

But *Clay's Ark* describes the confused muddle that precedes the strict hierarchy of the *Pattern*, dwelling upon a moment of possibility for kinship across culturally constructed boundaries, including species. Eli's community chooses to live with their infection rather than attempt to "cure" it; they regard themselves, their children, and their resident microbes as a network of persons, not "things." This open, inclusive notion of personhood represents an alternative to the dominant tradition of both the *Patternist* series and the nonfictional world, one that is better equipped to accommodate difference of all kinds. It chooses to assemble, rather than exclude, refusing the

categorical ordering of beings that would justify one kind's violence against those designated as Other. In this way, the infected community, though beset by the problems described above, offers an ethical model, demonstrating how to live without the historical and social infrastructure of a human/animal divide and how to develop productive, even loving relationships between human and nonhuman kin.

Recognizing diverse multispecies kinship means, for the characters in this book, giving up a piece of their identity as humans in order to redefine themselves in relation to other kinds of beings. And it is not simply the *types* of beings — microbes, quasi-animal children — that present them with an ideological challenge, but the *fact* of relation itself. The novel dwells upon a further difficulty of symbiotic living: the radical loss of self that it involves. Faced with the prospect of infection, the humans cling to the belief that autonomy is a fundamental privilege of their species. As humans — intelligent, rational, free-willed beings—they feel they ought properly to be in charge of their own minds and bodies. What distresses them most about infection is not the disease itself, but the loss of self-control it engenders. This belief resonates in the context of an anthropocentric discourse that recognizes humans as the world's primary agents, the only ones who matter and who are authorized to impose their program on the nonhuman world. With regard to microorganisms, it underlies what Paxson calls a Pasteurian microbiopolitics, which understands microbial and other nonhuman elements of the world as impurities and distractions, completely distinct from the human social field upon which they intrude: "Pasteurian practices configure microbes as elements to be eliminated so that human politics might be cultivated" (17).

Blake, the kidnapped doctor, is the most vocal Pasteurian in the novel. His training impels him to intervene into the spread of the organism, which he views only as an incipient epidemic. There is no possibility of living with it or of making peace with its carriers. To even consider doing so would represent, to Blake, an abdication of his medical duties. "The disease could be studied, understood, stopped, or at least controlled — and it had to be. The disease was only a disease. It was the willing human carriers intent on spreading it that made it deadly" (67). This is a battle between humans, Blake believes, one that can be solved by normal means without acknowledging the agency of any nonhuman players. The organism, reduced to a "disease," is simply a weapon being wielded by humans, rather than a being in its own right; once the humans are subdued, the organism can be easily dispatched. Blake's determined mission to escape Eli and seek medical treatment is, in fact, what leads to the microbe's massive outbreak; he helplessly infects a trucker who runs him over, then drives off to unwittingly infect countless others.

More useful than Blake's relentlessly medical approach, and vital in the wake of mass infection, is the emergent "post-Pasteurian" microbiopolitics of Eli, Keira, and other members of the community. In cheesemaking, Paxson suggests, "post-Pasteurians move beyond an antiseptic attitude to embrace mold and bacteria as allies" (18). In the much more perilous world of *Clay's Ark*, infected humans might have a hard time embracing the microbe as an ally, but they at least learn to coexist with it as a neighbor, to productively share the space of their brains and bodies. The microbe does not permit the comfort of sovereign subjectivity: the infected start to experience thoughts, desires, and compulsions that feel both deeply personal and utterly alien. They can no longer be certain of their own self-authorship: the most intimate parts of their existence are being rewritten by, or with, their new microorganism companion. And yet the people that they were are not altogether gone; they do not become pod people or zombies, evacuated of all human content. They retain their personalities, skills, and commitments, interwoven with the ever-ambivalent influence of the microbe.

So it is not exactly a loss of self, but a total restructuring that infection initiates. The symbiont former-humans cannot cling to the fiction of independence. They can no longer call themselves individuals, for they are biologically, genetically, and ontologically bound by the forces of contagion. Their collective subjectivity incorporates not only the various human members of the community, but the distributed population of microorganisms inhabiting their bodies: the "I" becomes an interspecies "we." Of course, this affront to the cherished principles of human being is experienced by the infected humans, at least at first, as profoundly traumatic; they are not used to sharing agency, especially with such microscopic creatures. For some characters, the change is too much to bear. One man, kidnapped and infected by the symbiont gang, poses a question that no one in the novel can really answer: "How much of *you* is left?" (140). Unable to imagine a future as the pawn of a deadly disease, Andrew commits suicide, choosing death as an extreme means of taking back his own story from the organism that would rewrite him against his will.¹⁰

Getting on gracefully with microbial kin. The novel's body count alone makes any straightforward celebration of symbiosis impossible. Andrew kills himself; Rane is viciously raped and murdered; Blake is flattened by a truck; and other characters, remembered or mentioned in passing, are killed by infection before their bodies are able to adapt. These losses, collateral damage to the microbe, are suffered keenly by its human hosts—one of many forms of discord between these companion species. In a move characteristic of her work, Butler leaves it an open question whether this symbiotic arrangement constitutes enslavement or revolution. She invents a wide cast

of characters to voice multiple viewpoints and carries this ambivalence through an inconclusive ending. By the final pages, the microbe has spread outside the small symbiont community; a global epidemic has begun and the human race may be doomed. At the same time, Eli's community remains determinedly equipped for survival; the novel closes on Keira, seemingly cured of her leukemia, and her partner Stephen, cautiously declaring their commitment to each other and their unborn child. The pregnant woman as the novel's final image recalls the trope of what Lee Edelman calls reproductive futurism — where a child-to-come serves as an emblem of hope for the future that is implicitly bound up with the affirmation of an existing social and political order — but with a significant twist: Keira's child will not be human. Like the rest of the symbionts' offspring, the child will be part of, in Stephen's words, "a new order. Hell, a new species.... We'll be obsolete, you and me" (212-213). The future that this child represents is one of chaos and uncertainty; it may indeed be "no future" for humankind. Yet even knowing that their union participates in the destruction of the social order as they know it, the couple still affirms the interspecies bonds that link them as a family and community.

Of interspecies contact zones, Donna Haraway writes, "There is no teleological warrant here, no assured happy or unhappy ending, socially, ecologically, or scientifically. There is only the chance for getting on together with some grace" (*Species* 15). In the profoundest sense, *Clay's Ark* is about "getting on together with some grace." Collective living is never easy or perfect: the book is very much a narrative of working things out, dealing with problems, figuring out how best to approach the urgent mission of cooperation and mutual survival. All this, Butler suggests, is necessary work for humans to do, whether one happens to have been infected with an extraterrestrial microorganism or not. The arrival of the microbe serves as a dramatic catalyst, forcing the humans it infects to create collaborative living situations with each other and with it, and thus to abandon some of their most beloved cultural myths: conventional structures of power, a solid human/animal boundary, and sovereign subjectivity. And yet the microbe does not make these myths untrue — it merely exposes their fictionality. Out of a teeming universe of nonhuman life, this particular organism finds a way to make itself heard — to inscribe its unsettling zoopoetics indelibly on the cellular and genetic medium of humanity. But it is by no means the first nonhuman to leave its mark there. To ask, as Andrew does, "How much of you is left?" can only lead to existential anguish. Instead, the novel asks us to be attentive to the multiple forces and relationships that constitute human identity, to consider the questions "Who and what were you to begin with? Who and what will you become, and with whom?" For a human, the novel contends, is never just one species. The microbial neighbors that share

the space of a human body are not merely alien interlopers; as silent, often inscrutable collaborators, they participate in the ongoing constitution of a self.

Reading infection as a microbial zoopoetics helps frame *Clay's Ark* as not merely a narrative of disaster, but a set of speculations on how humans might best carry on in a more-than-human world. This reading insists, first of all, that humans are not the only authors, the only poetic makers. In place of an anthropocentric model that views the nonhuman world as a blank page upon which is indelibly inscribed the great human story, Butler encourages us to consider that a microbe might be an author, a human its text. At the same time, texts are not neutral, passive objects awaiting inscription—they are vital, at times recalcitrant, engaged in the processes of authorship that make them. This is true of the human “texts” of *Clay's Ark*, alternately resisting and yielding to their microbial influences; perhaps it is true as well of the texts that humans make, the many surfaces, landscapes, and bodies humans have treated as canvases for their own visions. The final lesson of the novel, then, is that in a fundamental sense, all authorship is collaboration — between makers and made, authors and texts — even though it almost always occurs on profoundly unequal terms. This microbe, it must be said, is not a model collaborator: it colonizes and exploits its hosts, indifferent to their interests. Yet the experience of being cruelly objectified by another species is one familiar to many kinds of nonhumans. Humans can do better, Butler suggests, by constructing more responsible and mutually beneficial forms of collaboration with their nonhuman neighbors of all sorts.

The poetics that the extraterrestrial microbe inscribes onto its human hosts is both profoundly disturbing and encouragingly revolutionary. But ultimately, what matters about this microbial zoopoetics is less the specific content of the text it produces, and more the processes of ongoing interaction that it forces humans to recognize, in their own bodies as well as in the world around them. The catastrophe of infection, the novel suggests, might contain the seeds of a better world, where community must be an interspecies project that recognizes and fosters multiple forms of agency, where humans can no longer organize around a self-serving and destructive anthropocentrism but must actively collaborate with their fellow terrestrials. This nonhuman boldly proclaims its own agency; it scripts its symbionts in ways that cannot be ignored. Perhaps we can read, between the lines of Butler's imaginary microbe, the fainter, less obvious, but undeniable contributions of a vast array of nonhuman companions to the text we call “humanity.”

Notes

1. In her 1975 essay “American SF and the Other,” Ursula Le Guin challenges science fiction to move beyond its standard elitist and imperial narratives, which tend to neglect, distort, and simplify a range of “Others” — women, nonhuman species, working class people, people of color, and more. The genre has opened up considerably in the years since that essay was published, in part due to the influence of Le Guin and her feminist SF contemporaries. But the dominant narrative of hierarchy and xenophobia that she critiques has by no means vanished.

2. Joan Slonczewski moves even further in this direction with her 2000 novel *Brain Plague*, which focuses on the relationship between populations of intelligent microbes and the humans whose brains serve as hosts. A carrier and her microbes can speak (and argue) with each other; the intimacy of their symbiosis fosters strong mutual attachments, though microbial factions can also rise up against their human host by controlling her dopamine center. *Brain Plague* explores the possibility of productive, loving collective identity and collaboration between humans and microbes. It relies, however, on a strong anthropomorphism, rendering the microbes into miniature individuals who are, for the most part, legible and understandable to humans. Butler refuses to let her microbes be so explicable. Her novel thus makes it more difficult to theorize positive ongoing interspecies relationships, and yet reflects, without anthropomorphic shortcuts, the complexity and difficulty of human-animal relationships in the real world.

3. The most significant advances in animal advocacy tend to come on behalf of animals judged as similar to humans by virtue of their intelligence, communication skills, social organization, and so on. For instance, the international Great Ape Project (<http://www.projetogap.org.br/en/>) proposes a declaration of rights for the four nonhuman “great primates” (orangutans, gorillas, chimpanzees, and bonobos) that includes the right to life, the protection of individual freedom, and the prohibition of torture. In the United States, the Nonhuman Rights Project (<http://www.nonhumanrights.org>) works on a case-by-case basis to change an animal’s common-law status from “thing” to “person,” focusing on “bodily liberty” and “bodily integrity” as fundamental rights; their first cases were filed in 2013 on behalf of chimpanzees.

4. For some entry points into the extensive popular science discussion of the microbiome, see Pollan, Specter, and Stein. The NIH also maintains a list of journal publications relating to its research at <https://commonfund.nih.gov/publications?pid=16>.

5. I borrow “critter” as a critical term from Donna Haraway. “Critter” acts as more than just a synonym for “animal”; it refers to “a motley crowd of lively beings including microbes, fungi, humans, plants, animals, cyborg and aliens” in order to emphasize what is shared across various forms of life, rather than distinguish by taxonomic category (*Species* 330 n. 33).

6. There were once five novels in this series, but Butler purposely let one fall out of print (see Littleton’s interview “Octavia Butler Plants an Earthseed”). For a thorough overview of the remaining four books, see Sherryl Vint’s “Becoming Other.”

7. Biological reproduction itself seems open to being queered, as increasing numbers of LGBT couples and families (particularly those with access to adequate and supportive health care) draw upon a range of assisted reproductive technologies. But when it becomes non-optional and inflexible, as it does in *Clay’s Ark*, biological reproduction seems to signify an extreme heteronormativity.

8. Homosexual, asexual, trans, and genderqueer people can, of course, all reproduce; but in the context of this book, set in a remote location in a society on the brink of collapse, they would likely represent non-reproductive cases from a microbial perspective.

9. The novel does skirt this issue with the character of Andrew Zeriam, a young man that Eli’s band infects as a mate for one of their single women. It is vaguely implied that Andrew had been sexually assaulted by his previous captors (members of a road gang), but that he had not “cooperated.” “He was not a homosexual, then — fortunately for Lorene” (124). Butler thus opens a difficult question about how far her organisms will go to mold their human hosts, but does not answer it.

10. Andrew is able to succeed at suicide only because he is in the early stages of infection. Had the organism secured its hold on him, it would have prevented his death, via either his microbe-induced will to survive, which would have prevented him from carrying out the deed, or his body’s newly acquired healing ability, which would have closed his wounds before they could cause much harm. Eli and his fellow astronauts also attempted suicide, trying to destroy the organism before it reached Earth, but Eli’s hazy memories of the event tell him that his survival drive would not permit him to sacrifice himself; he alone of the crew lives to pass on the infection.

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