

Bodily Invasions: Gene Trading and Organ Theft in Octavia Butler and Nalo Hopkinson's Speculative Fiction

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ABSTRACT

Current environmental justice frameworks have demonstrated that poor and people of color communities often suffer unequal exposure to toxins, radiations and other environmental risks at home, at work, and in the surrounding locale, endangering the health of their bodies. Speculative fiction writers Octavia Butler and Nalo Hopkinson expand our view of environmental justice health issues by articulating ways in which the bodies of women of color may also be directly manipulated and harvested as environmental resources for those in power. Butler's *Dawn* presents the dilemma of forced gene-trading and sexual/reproductive controls and Hopkinson's *Brown Girl in the Ring* portrays a murderous case of organ theft. In both novels, black female protagonists must grapple with the moral issues created by the colonization and use of women's bodies as natural resource materials—extending the boundaries of our understanding of the interconnections between environmental justice, gender, and sexuality.

KEY WORDS

biopiracy	organ theft/organ harvesting
gene trading/genetic manipulation	Oankali
speculative fiction	Octavia Butler
<i>Dawn</i>	Nalo Hopkinson

Brown Girl in the Ring environmental justice activism
reproductive controls of women of color
colonization of black women's bodies



Environmental justice calls for the strict enforcement of principles of informed consent and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color.

“Principles of Environmental Justice”

Packaged in small tubes tucked in plastic foam containers, with careful instructions for feeding and handling, shipments of Henrietta’s cells went out to Gey’s colleagues around the world . . . to Minnesota, New York, Chile, Russia . . . the list goes on. Researchers welcomed the gifts, allowing HeLa to grow. They used the cells to search for a leukemia cure and the cause of cancer, to study viral growth, protein synthesis, genetic control mechanisms, and the unknown effects of drugs and radiation. And though Henrietta never traveled farther than from Virginia to Baltimore, her cells sat in nuclear sites from America to Japan and multiplied in a space shuttle far above the earth.

Rebecca Skloot¹

Current environmental justice frameworks have demonstrated that poor and people of color communities often suffer unequal exposure to toxins, radiations and other environmental risks at home, at work, and in the surrounding locale, endangering the health of their bodies. Speculative fiction writers Octavia Butler and Nalo Hopkinson expand our view of environmental justice health issues by articulating ways in which the bodies of women of color may also be directly manipulated and harvested as environmental resources for those in

power. Butler's *Dawn* presents the dilemma of forced gene-trading and sexual/reproductive controls and Hopkinson's *Brown Girl in the Ring* portrays a murderous case of organ theft. In both novels, black female protagonists must grapple with the moral issues created by the colonization and use of women's bodies as natural resource materials—extending the boundaries of our understanding of the interconnections between environmental justice, gender, and sexuality.

The novels of Butler and Hopkinson warn us of the possibilities of biotechnological colonization of vulnerable bodies, in particular the bodies of women of color. In *Biopiracy: The Plunder of Nature and Knowledge*, physicist and ecologist Vandana Shiva makes it clear that biogenetic and medical manipulation of humans, plants and animals are new forms of colonization that have now extended the ruinous exploitation of the planet *inward*. She writes:

The land, the forests, the rivers, the oceans, and the atmosphere have all been colonized, eroded and polluted. Capital now has to look for new colonies to invade and exploit for its further accumulation. These new colonies are, in my view, the interior spaces of the bodies of women, plants, and animals. Resistance to biopiracy is a resistance to the ultimate colonization of life itself—of the future of evolution as well as the futures of non-Western traditions of relating to and knowing nature. It is a struggle to protect the freedom of diverse species to evolve. It is a struggle to protect the freedom of diverse cultures to evolve. It is a struggle to conserve both cultural and biological diversity. (Shiva 5)

Butler and Hopkinson's speculative fictions draw our attention to the shadowy possibility that new medical technologies such as biogenetic manipulation of DNA and organ harvesting might, in certain circumstances, be forms of literal objectification in which the body parts of women of color come to be deemed as usable, extractable, tradable, natural resources which the women will be coerced or violently forced into relinquishing for the purposes of those in power.

In fact, the novels make clear the implicit violence of the perspective that the bodies of women of color have instrumental rather than intrinsic value, and that their body parts may be exploited as commodities that have more exchange value than the women themselves.

Furthermore, in both of these novels, such bodily invasions are presented within the context of unequal social/cultural relations and environmental/social catastrophes, which underscores that these coerced bodily invasions are forms of environmental injustice. Frighteningly, in both novels, the colonization of women of color's bodies is *justified* as an aspect of environmental preservation, as a necessary response to environmental degradation. Thus both authors encourage us to examine how environmental struggles may be played out upon/within the bodies of women of color. Butler and Hopkinsons's novels feature black female protagonists who are subject to such biomedical incursions, and who must make practical/ethical choices about how to address these new forms of colonization, given the imbalances of power and the environmental/social degradations within which they occur. If we examine these speculative fictions within the context of the historical colonization of women of color and current environmental justice health movement, they may be read as provocative cautionary tales about the potential for misusing biomedical processes to further exploit and objectify women's bodies, and to justify such expropriation in terms of environmental necessity.

In Octavia Butler's *Dawn*, the first novel in her "Xenogenesis Trilogy," environmental catastrophe becomes the justification for sexual/genetic manipulation of the surviving humans; the novel explores the premise that if human behavior is genetically determined, then genetic manipulation is the best means of shaping behavior, and forcible control of sexuality/reproduction is justified by needs for species evolution. In *Dawn*, an African American woman named Lilith is one of the humans who have been rescued from Earth by an alien species named the Oankali, following a nuclear war among the humans that has left the planet irradiated and uninhabitable. While the Oankali do not usually intervene in the death throes of suicidal species, they are

fascinated with the biology of human cancers, which the Oankali believe might have the potential to teach them how to regenerate cells and organisms, and they are equally fascinated with the dangerously contradictory behaviors of human beings, who are, as her first Oankali acquaintance explains to Lilith, an incompatible genetic mixture of “hierarchical” and “intelligent” tendencies. In order to protect humans from these ill-matched genetic tendencies and to satisfy the Oankali’s “acquisitive” need to incorporate new genetic materials for their own evolutionary purposes, the Oankali offer the captured humans a “trade” arrangement: the Oankali will restore Earth to ecological balance and return the humans to the planet only if they agree to become genetic/reproductive partners with the Oankali, and to merge into a new species that blends human and Oankali genes and traits. Humans who do not agree to the trade will remain permanently sterilized in order to ensure that their genetic predisposition to intelligence and hierarchy will not be transmitted to offspring who might once again annihilate the species and the planet. Thus, according to the terms imposed by the Oankali, humankind as we know it will cease to exist, either through attrition or through genetic intermixing with the Oankali. Lilith, who has been awakened from suspended animation upon the Oankali space ship, is gradually acclimated to the Oankali and convinced to accept the terms of the “trade” agreement. She is then trained for the role of “first parent,” responsible for awakening a group of humans who will be prepared to return to Earth and partner with the Oankali.

While the Oankali believe that they are offering humans a fair form of salvation and the opportunity for new life, Lilith perceives the “trade” as a form of domination and exploitation, analogous to human domestication of and experimentation upon non-human species.² She often refers to the Oankali treatment of herself in terms of human treatment of other animals, such as pets, zoo animals, or biological experiments:

In a very real sense, she was an experimental animal. . . . She was intended to live and reproduce. . . . Experimental animal, parent to

domestic animals? Or . . . nearly extinct animal, part of a captive breeding program? Human biologists had done that before the war—used a few captive members of an endangered animal species to breed more for the wild population. Was that what she was headed for? Forced artificial insemination. Surrogate motherhood? Fertility drugs and forced “donations” of eggs? Implantation of unrelated fertilized eggs. Removal of children from mothers at birth. . . . Humans had done these things to captive breeders—all for a higher good, of course. (Butler 58)

Lilith learns that, for such a “higher good,” the Oankali have, in fact, created gene prints of the captive humans without their knowledge or consent, and have used human genetic materials to reproduce a larger stock of humans for experimental study and partnership.

While Lilith tends to compare the Oankali treatment of humans to our behavior toward other animals, the notion of paternalistic control and genetic manipulation of captive populations for a “higher good” also echoes the historical and contemporary situations of women of color in the U.S. and around the globe who have been subjected to sexual and reproductive controls during centuries of colonization and neo-colonial exploitation, which has often been justified in terms of environmental requirements or protections. A number of critics have pointed out how Lilith’s situation invokes the treatment of enslaved African American women, who after being stolen away from kin and country and imprisoned, were then subjected to a series of sexual and reproductive atrocities, including rape by their white owners and others in power; assignment to enslaved men as sexual partners; having their children deemed chattel property who could be sold away from their parents by their white masters; and being required to act as wet-nurses and caretakers for white children while leaving their own children to uncertain care.³ As I have written elsewhere, it has been well documented that these practices were justified in terms of environmental needs and requirements; free white landholders needed a labor force in order to cultivate the so-called “virgin land,” and because whites deemed Africans and Indians to be more animalistic

than themselves, they could justify inhumane and genocidal practices, as expedient in terms of achieving the “higher good” of conquest and colonization.⁴ Even after slavery and other forms of colonization ended, women of color have continued to be treated exploitatively and paternalistically, and their sexuality/reproductivity has continued to be impinged upon in the name of environmental necessity. For example, within the U.S. and its protectorates, racist policies of sterilization, experimental and coercive use of potentially hazardous long-term birth control methods such as Depo-provera shots and Norplant devices, and family size limits linked to economic support have been imposed upon women of color, even into the present day, in the name of wise use of environmental resources, or of creating proper home environments.⁵ The Committee on Women, Population, and the Environment, a contemporary network of feminist scholars and activists, notes the disturbing trend of first world environmental organizations (which are predominantly white and middle to upper class) blaming environmental crises on overpopulation of the third world and urging the imposition of population controls upon women of color, instead of limiting the exorbitant consumption of natural resources within developed nations. Jael Silliman explains that by this logic, “population increases are associated with faceless and undifferentiated poor women of color . . . those ‘dark and irrational people’ in those equally ‘dark and primordial places’—who are unaware and ignorant of the ‘fuses’ they are sparking. ‘They’ are the problem. ‘We’ are absolved of all responsibility” (Silliman viii). In light of this pervasive attitude, some feminists and environmental justice activists fear that the rapidly developing field of biogenetic research might provide new forms of reproductive controls imposed by first world scientists, corporations, and governments upon third world women: gene mapping, the patenting of DNA patterns, and pre-natal gene testing could well lend themselves to the sorts of colonialist scenarios that Butler foresees in *Dawn*.⁶

In this vein, although the Oankali in *Dawn* present themselves to Lilith as an egalitarian society within which important decisions are reached through group consensus, they impose such decisions upon

their human “partners” without their free consent and sometimes even without their knowledge, much as earthly colonial powers did to those whom they conquered or enslaved. First and foremost, the gene trade is presented to Lilith as a unilateral and nonnegotiable arrangement that the Oankali are determined to engage in with their “partners.” Jdahya tells Lilith, “We are as committed to the trade as your body is to breathing. We were overdue for it when we found you. Now it will be done—to the rebirth of your people and mine” (Butler 41) —even though Lilith’s initial response to these terms is that she wishes that the Oankali had left her on Earth to die, rather than to birth children who will be alien rather than fully human. The Oankali’s biotechnological superiority serves as their mandate to colonize other species for their own needs, and to appropriate the genetic characteristics that will improve their own evolutionary survival, much as Vandana Shiva warns against in her writings on biopiracy.⁷

Even within the parameters of the “trade,” the Oankali grant Lilith very little freedom, assuming that their superior understanding of sentient life allows them to make the best decisions for her, much in the manner of historical and contemporary human groups that advocate external control of women of color’s sexuality and reproduction. For example, Lilith is simply assigned to a trio of Oankali who will become her family/mating partners, rather than being offered any choice of which aliens with whom to bond. She is offered a larger, but still limited choice of human partners, first being paired with a man who attempts to seduce and then rape her, but then being allowed to “choose” Joseph. While Joseph and Lilith appear to freely choose each other as lovers, given the confines of their situation on the ship, Lilith later discovers that Nikanj, one of her Oankali partners, had selected Joseph as an appropriate mate for her, and had made sure that he was among the candidates she would awaken. The paternalistic Oankali control of human sexuality and reproduction is expressed even more directly within the sexual encounters that Nikanj orchestrates with his human partners. As an ooloi, the Oankali third sex responsible for controlling sexual exchanges and genetic mixing of children, Nikanj imposes Oankali sexual/reproductive practices upon its human mates.

During sex with Nikanj, Joseph and Lilith are physically separated by their Oankali intermediary, and the human lovers will no longer be permitted to touch each other directly; due to the chemical changes that Nikanj produces in their bodies, they will now find each other's touch physically repellant, and will only be able to share sexual experiences that Nikanj transmits neurologically between them. These are the terms of the trade: sexual pleasure and reproduction will occur only through the Oankali—no direct, unmediated human sexual contact will be permitted.

Furthermore much like contemporary population control advocates, Nikanj makes sexual and reproductive choices on behalf of its human partners, sometimes without their knowledge or conscious consent, by rationalizing that it acts in their best interest, or as the situation requires. For example, Nikanj engages in sexual activity with Joseph, even though he has verbally refused; Nikanj comments that “Your body said one thing. Your words said another” (Butler 190) and when Joseph again refuses permission, Nikanj insists: “Be grateful, Joe. I’m not going to let go of you” (190). Even though Joseph only struggles briefly, and then accepts the pleasure Nikanj offers him, the forced imposition of sexual activity after a verbal refusal could be legally defined as rape according to U.S. laws, and this scene presents the disturbingly familiar situation in which the colonizer overpowers the colonized, even if the colonized supposedly accedes to the situation once it is imposed. Even more disturbingly, after Joseph’s murder, Nikanj bio-technologically impregnates Lilith without her informed consent, with genetic materials that it has preserved from Joseph and mixed with those of herself and her Oankali family partners, even though Lilith has continued to express resistance to the idea of the “trade” and Nikanj had formerly promised her that humans would not be forced into xenogenesis until they were ready and willing. Lilith reacts with horror to the news of her pregnancy, stating: “I’m not ready! I’ll never be ready!” (Butler 246) and exclaiming that “‘It will be a thing—not human.’ She stared down at her own body in horror. ‘It’s inside me and it isn’t human’” (Butler 246), but Nikanj overrides her objections by explaining, paternalistically that it believes this decision

is for her own good. It tells her that “you are ready to have a daughter. . . . You never could have said so. Just as Joseph could never have invited me into his bed. . . . Nothing but your words reject this child” (Butler 246), discounting Lilith’s verbal objections and claiming to know her better than she knows herself, even though Lilith’s final statement about the pregnancy is to assert once again that, “this will destroy (humankind)” (Butler 247). In this final scene of *Dawn*, Lilith faces the reality that the Oankali have indeed expropriated her genetic/reproductive materials without consent and have combined them into a mix that suits their needs for the “trade”; this coerced pregnancy is the first instance of xenogenesis, producing children who will be other than humans, thus discontinuing the race/species. (In the two following novels, ALL decisions about reproduction and the fate of human/Oankali construct offspring will be decided by consensus of the Oankali. Lilith will not be able to protect her own children from such decisions—yet her children will continue to act as change-agents who work to assure that the human perspective is understood and heard by the Oankali.)

Even though all surviving humans will be subject to the Oankali “trade” in this novel, Butler’s use of a black female protagonist to act as the “first parent” is significant, focusing our attention on the position of actual women of color who must negotiate inescapable colonial forces that exert control over many aspects of their lives, particularly sexuality and reproduction. Throughout this novel, Lilith exhibits pragmatism, honesty and directness in expressing dissent toward her captor/rescuers, yet she also often accedes to their control, since she believes she has no alternatives, since there is no escape from the ship and she wishes to preserve as many lives—of both species—as possible. She adopts a policy that she refers to as “learn and run!” (Butler 248) that is reminiscent of the behavior of enslaved African Americans, who absorbed as much useful information from their masters as possible while they bided their time for flight or uprising. Lilith realizes the necessity of understanding her alien colonizers, and of learning about the environmental changes that the Oankali have wrought in the vegetation and animals of the restored earth, if she or

any other humans are to have any hope of surviving independently upon the changed planet. While she is completely opposed to the trade that the Oankali demand, she also realizes that humans are now completely dependent upon their captors and cannot simply defy their control. Ironically, it is Lilith's very desire for environmental justice—for humans to return to the earth, their home environment, and to reinhabit the restored planet, as well as her desire for humans to find some way to continue as a species, outside the terms of the trade—that leads her to assume the role of “first parent,” responsible for convincing fellow captives to co-operate with each other and with the Oankali. Lilith is very conscious that the Oankali have placed her in the compromising position of “judas goat” (an ambiguous term that implies that she is betraying others and/or that she is being betrayed, as well as acting as the scape-goat), and she realizes that other humans perceive her as a collaborator, even though she hopes that her actions will eventually lead to their freedom and reinhabitation of the earth. Lilith retains a long-range commitment to the survival of a human community on earth, even while she remains entrapped, with no real freedom, only coerced, self-compromising choices.⁸

Lilith's compromised position and underground resistance illustrates the plight of actual women of color who face similar limits to their sexual and reproductive freedoms, imposed in the name of environmental protection, or environmental necessity. Butler's novel should put us on our guard against the insidiousness of racist theories of biological determinism and against state or transnational programs that control women's fertility and motherhood without their freely given consent. Through its plot of alien conquest and xenogenesis, *Dawn* emphasizes the painful loss of bodily integrity and informed consent, and illustrates the argument of Justine Smith, a member of the Committee on Women, Population and the Environment, that we must include sexual/reproductive freedom and other health care concerns within the realm of sovereignty, or community self-determination over crucial aspects of life and environment which are fundamental aspects of environmental justice.⁹

Presenting another futuristic portrayal of women resisting bodily

invasions, Nalo Hopkinson's *Brown Girl in a Ring* is set in the foreseeable future, within the decaying inner-city of Toronto, Canada, which has been abandoned to the poor, the homeless, and the corrupt when the political, economic, and social collapse of the core city prompted those with means and mobility to flee to the suburbs. Through a series of newspaper headlines that outline the city's demise, Hopkinson suggests that colonialist and environmentally racist government policies underlie the collapse of Toronto. First and foremost, the refusal of the province of Ontario to settle an ongoing land-rights suit brought by First Nations Temagami peoples led to an international trade embargo against wood taken from the disputed lands, which in turn led the Canadian government to cut funding to the province. These factors contributed directly to the demise of Toronto, as one crisis set off another: economic decline led to unemployment, crime, failures of mass transit, deadly rioting, and finally flight from the city by all investors and public offices. Declared a "warzone," Toronto was abandoned by local and regional powers who set up roadblocks at the borders of the city to contain the problems; poor communities were left to grapple unaided with extreme urban decay and dislocation from the outer world. With no local government to provide public services such as schools, health care, or law enforcement and protection; no infrastructure or physical services such as utilities, sewage treatment, or transportation; and no commercial money economy, inner-city residents are thrown back upon their own resources. While the situation in this novel is extreme, it is also typical of the inextricable connections between environmental and economic injustice, symbolizing the way that poor communities of color may be abandoned by the larger society, segregated into impoverished neighborhoods with problems no one else is willing to address.

The novel represents the struggle between two opposing responses to the vacuum left when commerce and government abandoned the community. As is typical of actual communities roused by environmental injustices, many of the characters in this novel band together to recreate new forms of interdependence and care that draw upon the indigenous practices of Toronto's varied immigrant cultures.

Residents learn to plant gardens and hunt in erstwhile public parks, make squatter homes in hotels and other available spaces, barter goods and services, creating subsistence modes of living within the limited resources of the city. Exemplifying this positively resourceful response to the urban disaster is Mami Gros-Jeanne, a nurse/healer/spiritual leader who has made her home on an erstwhile model farm within the city, where she grows herbs and plants for the traditional Afro-Caribbean remedies with which she tends her neighbors. She has also reclaimed the Toronto Crematorium Chapel, where she conducts traditional Afro-Caribbean ceremonies that nourish the souls of those who attend, as she explains to her granddaughter: "The African powers. . . . The spirits. The loas. The orishas. The oldest ancestors . . . no matter what we call it, whether Shango or Santeria or Voudun or what, we all doing the same thing. Serving the spirits." (Hopkinson 126). As Mami serves the spirits, she also serves the community: offering healing to bodies and souls, preserving life, and modeling the ways that cultural heritage might be adapted to provide life-sustaining alternatives to Toronto's urban crisis.¹⁰

In contrast, Rudy, who was once Mami Gros-Jeanne's husband, along with his posse, takes full advantage of the lack of public governance systems to terrorize the helpless of the city through violent crime, drug distribution, and supernatural control. Rudy misuses the Afro-Caribbean spiritual traditions learned from Mami for his own foul purposes. He violently maintains control of the city drug trade and over his posse of young black men through use of the supernatural powers of duppy spirits whom he has enslaved, including that of his own daughter, Mi-Jeanne. Mami says of him, "Rudy is a shadow catcher. . . . Rudy does work the dead to control the living" (Hopkinson 121). Rudy uses the duppy spirits to enforce his rule, ordering his duppies to torture and kill all those who stand in his way, and feeding the duppies a steady diet of human flesh and blood, from Rudy's enemies and from the helpless street children of the city. Rudy has capitalized on the demise of the city, increasing his power by bringing suffering and death to those who remain, literally draining the life from their bodies and souls for his own ends. While Rudy may not be the typical perpetrator of

environmental injustice, he does exemplify the disregard for others' lives and wellbeing that underlies many environmental ills, and he illustrates how the drug trade, and the crime and violence surrounding it, can destroy community environments, and is thus a part of the environmental justice struggle to restore common spaces.¹¹

Interestingly, Hopkinson's novel presents organ harvesting/theft as the issue that exacerbates the conflict between Mami and Rudy, and between the residents of Toronto and the provincial government. When the premier of Ontario's heart fails, she makes the politically expedient decision to seek a human heart donor, instead of the accepted course of using a heart from the porcine organ farms, which have recently become controversial when the Epsilon Virus jumped from pigs to people, due to the an-antigens used to suppress the pig immune systems on the organ farms. Premier Uttley's advisors suggest that she can regain the popularity she has lost through the debacle of Toronto by reviving the human organ donor program, thus satisfying the animal rights activists who are opposed to harvesting porcine organs, and also allaying people's fears about the spread of the virus. However, Uttley's plea for a human donor sets the sinister plot of *Brown Girl* into motion when a hospital administrator bribes Rudy to find a viable heart, and Rudy orders his henchman, Tony, to murder Mami in order to steal her heart for transplantation into Premier Uttley.¹² The symbolism of this murderous heart-theft is obvious: a weak-hearted, self-interested public leader, in league with cold-hearted gang lord, steals the still-beating heart of Mami, a poor woman of color who is at the heart of the urban Toronto community.

This plot illuminates the darker possibilities of cadaveric organ "harvesting," and frames organ theft as an environmental injustice in which certain peoples might be deemed natural resources, valuable only for their body parts such as organs or blood, instead of as persons with intrinsic value and human rights, including the right to live.¹³ Once human organs are viewed as harvestable resources, it then becomes possible to literally expropriate them, stripping them out of their original host for implantation into other bodies. This removal might be seen as an ultimate form of biopiracy and bodily colonization

that literally dismembers the colonized person in order to incorporate their body parts into the colonizer's body.¹⁴ Hopkinson emphasizes this point, when the hospital technicians completely disregard Mami's head injury and do nothing to see if her life might still be saved, focusing only on assuring the viability of her heart, which they refer to as "bio-material" (Hopkinson 152).¹⁵ The novel makes visible some of the more ghastly aspects of current organ donation systems, such as the fact that most viable transplant organs are harvested from bodies that have undergone violent deaths, and that as violent deaths from car accidents, other accidents, and murders decrease, fewer donors are available to provide viable organs. As the novel illustrates, scarcity of voluntary organ donors has given rise to serious fears that the process of organ donation or organ sale might become corrupted, with vulnerable populations, such as poor people of color (particularly women and children), being targeted by those with money and power for purchase of "spare" parts such as kidneys, or, far worse, for the violent and deadly theft of their vital organs.¹⁶

In *Brown Girl*, Premier Uttley's desire for a human heart leads directly to Mami's murder, raising important questions about the race, class, gender, and geo-politics of organ "donors" and organ "recipients." This theft symbolizes the real inequities of the international organ trade, in which, for example, skin, corneas, and kidneys might be harvested for sale from executed Chinese prisoners, or desperately poor women in India might sell one kidney or a portion of a liver.¹⁷ Furthermore, while the practice of organ transplantation clearly does save recipients' lives, it also raises ethical questions about our disparate health care system and inequitable funding of medical treatments. In the novel, as in much of the actual world, mainstream medical services are not available or affordable for the poor, and the exorbitantly expensive medical crews who visit the city on rare occasion have been dubbed "the Vultures": "The price for established medical care was so high that only the desperately ill would call for help. If you saw a Vulture making a house call, it meant that someone was near death" (Hopkinson 8). Ironically, the only time the Vultures appear in the novel they live up to their nickname of carrion eaters,

when they arrive to prey upon the dying, by seeking Mami's viable heart. Not only does the medical establishment not serve the poor in Hopkinson's novel—their bodies now serve as a consumable medical resource, supplying the "biomaterial" for expensive organ transplant procedures for those in the wealthy suburbs. Clearly, as described in this novel, organ transplantation is an environmental justice health issue raising serious ethical, social, and environmental questions about the integrity of bodies, and the power-politics of health care.

Similar to *Dawn*, *Brown Girl in the Ring* also features a young black female protagonist who must strategically address the environmental injustices that threaten her family and community, and she illustrates the sorts of motivations that draw actual women into grass-roots environmental justice activism. Ti-Jeanne, who is Mami and Rudy's granddaughter, must seek recourse for Mami's murder and the theft of her heart, and muster the courage to challenge Rudy and end his exploitative and destructive reign. While Ti-Jeanne has lived with Mami and worked as her apprentice for as long as she can remember, she has also been fearful of Mami's spiritual powers, and reluctant to learn about her own spiritual visions and visitations; she has also been in love with Tony, a young man with medical training who is now a drug dealer and addict and who is the member of Rudy's posse assigned to secure Mami's heart. Mami's murder galvanizes Ti-Jeanne, pushing her to embrace her visionary powers, to call upon and imaginatively use the guidance of the loas, and to battle her grandfather, in order to free the community from his bloody grasp. As a granddaughter and daughter she must save her mother from enslavement as Rudy's duppy, and avenge her foremothers' sufferings, and, as a young mother, she must free her baby from the spirit who has taken refuge in his body, and release Tony, the baby's father, from Rudy's influence. While Ti-Jeanne's battle with Rudy does not take the typical form of most environmental justice struggles, she resembles many women in these movements, who are radicalized through immediate family concerns that are enmeshed with larger social/environmental community issues, driven by local and regional politics. In order to defeat Rudy's deadly powers, Ti-Jeanne assembles

a force of supernatural allies. She calls the ancestors, or loas down from the skies, and the spirits of Rudy's many human victims, including numbers of street children sacrificed to feed his duppy, up from the earth. Together, with Ti-Jeanne, these spirits release Rudy's supernatural powers, kill him, and set the spirits of his victims to rest. This cosmic battle overturns the praxis of Rudy and the provincial government that assumes urban people are mere resource objects for consumption, —a view that endorses biopiracy—the theft of bodies, blood, souls—for someone else's advantage. Instead, Ti-Jeanne and her forces represent a triumph of a holistic, affirmative, collective praxis that justly reclaims the urban environment of Toronto for its residents, and signifies the way that indigenous and other spiritual practices may serve as a vital resource for environmental justice struggles, which have often originated in churches or other spaces of worship.

The novel also ends with a change of heart in the larger political realm. After Mami's heart is transplanted into Premier Uttley's body, an internal battle ensues in which the heart rejects the body and takes control of it, instituting a form of symbiosis whereby Mami's heart/values will be merged with Uttley's political strategies: while Premier Uttley had formerly been a self-serving politician, coldheartedly disinterested in the struggles of her urban constituents, she now announces her intentions to rejuvenate Toronto by offering assistance to the small businesses, squatters, and resourceful people of the city—a promising strategy for nurturing environmental justice for the city. She also announces her plan to create a “presumed consent” human organ donor program that would create a much larger pool of viable organs, and therefore, hopefully, put an end to any illicit traffic in human organs, such as the murder that provided for her own transplant.¹⁸ This novel ends optimistically, with a vision of environmental justice rising over the the horizon, roused through the perseverance of women of color, working with indigenous spiritual powers and other community members, to defeat the corrupt, and to infiltrate and transform the political establishment.

Nalo Hopkinson's and Octavia Butler's speculative visions of the

future urge us to expand our understanding of environmental justice health issues to encompass the biomedical colonization of the bodies of women of color. When we read *Dawn* and *Brown Girl in the Ring* within an environmental justice context, both novels suggest that we must guard against possible misuse of new biotechnologies for purposes of exploitation and biopiracy, and that we must be especially wary of environmental justifications for biomedical incursions into the bodies of women of color. If, as Vandana Shiva argues, the next frontier for colonization is the internal worlds within third world women, then our work for environmental justice must seek to protect these genetic and organic bodies from those who would prey upon them as natural resources, ripe for harvest. Butler and Hopkinson's speculative novels illuminate the complex and difficult position of black women who are currently negotiating such situations of environmental degradation, resisting bodily invasions, and working for the physical and cultural survival of their peoples and communities. By heeding these futuristic parables, perhaps we might better understand how gender and sexuality may function as sites of vulnerability but also as sources of subversion for women facing environmental injustices.

NOTES

¹ I wish to thank Valerie Kaalund for telling me the remarkable, true story of Henrietta Lacks, a young African American woman who died of cervical cancer in 1951, but whose cervical cells had been "harvested," presumably with either coerced or no permission from her family, and then used by Dr. George Gay to create the first successful human cell lines for experimentation. As mentioned in this passage, the HeLa cells (that bear an abbreviated version of Henrietta Lacks' name, although few people know this), are incredibly resilient and have gone on to reproduce themselves around the globe and even in outer space, achieving a sort of immortality of their own. The idea that a black woman's cancerous cells would be harvested without her consent and become the essential basis for so much scientific research, is a blood chilling example of the sort of biopiracy that I discuss throughout this

essay—and a fascinating parallel to what happens to Lilith in Butler’s novel. In the case of Henrietta Lacks, truth is, unfortunately, every bit as strange and unsettling as fiction.

² *Dawn* has received much critical attention, most of which focuses upon the interchanges and exchanges between the Oankali and the captive humans they have rescued. While critics agree that *Dawn* explores human fears of difference and alienness, and that the Oankali’s social structure and ways of life offer some positive alternatives to terran social norms and human hierarchies and binaristic patterns of thought, critics are in disagreement as to whether or not the Oankali offer a utopian model of egalitarian exchange, or institute another form of colonization and enslavement of the rescued humans. For example, Stacey Alaimo, in *Undomesticated Ground*, focuses upon the positive value of the Oankali employment of a “corporeally based empathic ethic” and the way that they “eschew hierarchies and affirm difference” (145–46). In contrast, Rebecca Holden argues in “The High Costs of Cyborg Survival” that despite such traits, the Oankali function as “imperialistic colonizers” whose “absorption of difference” is still a form of domination of their partner species (51).

³ See, for example, Rebecca Holden’s “The High Costs of Cyborg Survival: Octavia Butler’s *Xenogenesis* Trilogy,” Amanda Boulter’s “Polymorphous Futures: Octavia Butler’s *Xenogenesis* Trilogy,” Donna Haraway’s *Simians, Cyborgs, and Women*, Michelle Osherow’s “The Dawn of a New Lilith: Revisionary Mythmaking in Women’s Science Fiction,” among others.

⁴ See Rachel Stein, *Shifting the Ground: American Women Writers’ Revisions of Nature, Gender and Race*.

⁵ For example, President George W. Bush has diverted funds into programs that will encourage poor women to marry, while at the same time he has cut U.S. contributions to the United Nations international programs that provide birth control counseling and materials to poor women. For discussion of coercive controls of women of color’s fertility, see Marsha J. Tyson Darling’s “The State: Friend or Foe? Distributive Justice Issues and African American Women,” and April Taylor’s “High-Tech, Pop-a-Pill Culture: ‘New’ Forms of Social Control for Black Women.”

⁶ See, for example, Vandana Shiva’s *Biopiracy: The Plunder of Nature*

and Knowledge, April Taylor's "High-Tech, Pop-a-Pill Culture: 'New' Forms of Social Control for Black Women" and Giovanna Di Chiro's chapter in this volume for discussion of the eugenics possibilities of biogenetic research.

⁷ Vandana Shiva writes that "... the invasion and takeover of the life of organisms as the new colonies is being made possible through the technology of genetic engineering. Biotechnology . . . makes it possible to colonize and control that which is autonomous, free, and self-regenerative. . . . Technological development under capitalist patriarchy proceeds steadily from what it has already transformed and used up, driven by its predatory appetite, toward that which has still not been consumed" (45).

⁸ Rebecca Holden makes very strong points about Lilith's lack of free choice and the many forms of self betrayal that her survival entails: "she must betray her gender, her race, and her species" (49). Holden notes that Lilith's lack of free choice is typical of that many African American women throughout history: "once they choose to survive, few other choices remain available" (52).

⁹ See Justine Smith, "Native Sovereignty and Social Justice: Moving Toward an Inclusive Social Justice Framework."

¹⁰ The Principles of Environmental Justice adopted by the First National People of Color Environmental Justice Leadership Summit in 1991 included respect for indigenous spiritual relationships between humans and the natural world. Devon Pena and Laura Pullido are two environmental justice theorists who describe how important cultural traditions and spiritual relationships to the natural world are to Hispano communities working to maintain themselves in the face of environmental injustices.

¹¹ For example, in Giovanna Di Chiro's interview with Baltimore activists Bryant Smith and Cinder Hypki, "Sustaining the 'Urban Forest' and Creating Landscapes of Hope," they discuss the process of community members reclaiming public spaces from drug activity in order to make parks and green spaces available to children and others. Peter Medoff and Holly Sklar's *Streets of Hope* describes a similar process of reclamation in Roxbury, MA.

¹² I am struck by the way that this instance of organ theft mirrors the way that Rudy already objectifies and consumes the bodies of those in his community, when he feeds their blood and bodies to his duppy spirits.

¹³ Two other environmental justice novels that feature the theme of organ theft are Leslie Marmon Silko's *Almanac of the Dead* and Karen Tei Yamashita's *Tropic of Orange*.

¹⁴ Organ donation has been enabled by the legal/medical concept of "brain death" in which a person may be declared dead if brain functions cease, even though other bodily functions, such as heartbeat continue. This has allowed surgeons to harvest organs in usable condition for transplantation. Countries such as the U.S. and Canada have adopted this definition of death, which allows for organ harvest, while many other countries of the world still do not accept this concept. Margaret Lock compares the different attitudes toward brain death and organ transplantation in the U.S. and Japan, and writes about the ethical considerations raised by this changing definition of death in *Twice Dead: Organ Transplants and the Reinvention of Death*. One might argue that the concept of brain death allows us to colonize the bodies of the dying.

¹⁵ This gruesome fictional scene echoes descriptions of actual harvesting of organs from live Chinese prisoners who have been shot in the head, but also drugged and even respirated to keep their hearts beating until their organs can be removed for transplant to members of the communist elite or foreigners who have purchased these body parts. No consideration is given to the pain and suffering of the prisoners. See Carl Becker, "Money Talks, Money Kills—The Economics of Transplantation in Japan and China."

¹⁶ Several contributors to *The Ethics of Organ Transplants* express concerns about race and class inequities in the organ transplant system and raise fears about the real possibilities of present and future corruption of harvesting and distribution of organs. See "Racial Inequity in Renal Transplantation," by Robert Gaston, et. al and "Leaving the Field" by Renee Fox and Judith Swazey.

¹⁷ Journalists and even medical practitioners have described such practices, which are driven by the scarcity of viable organs, the helplessness of certain populations such as prisoners, and the desperation of the poor. See Craig Smith, "Doctor Says He Took Transplant Organs from Executed Chinese Prisoners," and "Leaving the Field" by Renee Fox and Judith Swazey.

¹⁸ There is current debate about such presumed consent systems, in which everyone is presumed to be a donor unless they have expressly

forbidden the harvesting of their organs. While such systems create a greater supply of organs, they also essentially force all viable donors into the system without obtaining their assent.

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