

Intimate Objectivity: On Nnedi Okorafor's Oceanic Afrofuturism

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Abstract: This article presents a reading of Nnedi Okorafor's science fiction novel/petrofiction *Lagoon* (2016) in order to develop a theory of "intimate objectivity" in which marine biology calmly confronts the fantastic. Drawing on traditions in feminist science studies, postcolonial theory, Afrofuturism, and the ocean humanities, I show how *Lagoon's* intimate objectivity derives from its dual characterization of visiting aliens as coral reefs and Mami Wata deities. This double signification places *Lagoon's* aliens as mediators of both indigenous cosmologies and technological evolution, a necessary catalyst for imagining alternative futures distinct from the destructive elements of petroculture.

I.

Nnedi Okorafor's novel *Lagoon* (2016) begins from the perspective of an enraged swordfish who wishes to sabotage an oil pipeline.¹ The swordfish rails against those who "brought the noise and made the world bleed black ooze that left poison rainbows on the water's surface," the "bitter-sweet-tasting poison" of petroleum (3–4). This moment, while whimsical, is grounded in Nigeria's very real economic dependency on exported oil. As Rob Nixon has noted, Shell Oil is the largest foreign stakeholder in the Nigerian economy, owning 47 percent of the oil industry; further, "Shell, Chevron, and successive Nigerian regimes have siphoned \$30 billion worth of oil from beneath [the] Ogoni [people's] earth" with spills resulting in devastating environmental consequences (2011). According to a 2011 United Nations report, there were over seven thousand oil spills in the Niger Delta from 1970–2000, prompting the report to call it "one of

the most polluted places on Earth” (Dixon 2011). The late writer and activist Ken Saro-Wiwa argued that these residues of petroleum production, left to slicken and poison the earth, constituted a form of genocide against the Ogoni people (1992). Since Saro-Wiwa’s death in 1995, armed rebel groups have pursued increasingly violent forms of resistance against the petroleum industry by kidnapping oil workers and sabotaging oil installations (Caminero-Santangelo 2015).

In relation to this oily subtext, Okorafor sets up *Lagoon* first and foremost as a “petrofiction” (Ghosh 1992). The term “petrofiction” originates in the title of Amitav Ghosh’s review of *Cities of Salt* (1984), a novel by Abdelrahman Munif detailing the economic and cultural history of oil (Ghosh 1992). Since Ghosh’s coinage, petrofiction has gained popularity in the broad field of ecocriticism. It serves not only as a descriptor for novels with oil production as subject matter, but also, as Imre Szeman argues, as a periodizing term that positions oil as a subtext for *all* modern novels—if we understand oil to support the conditions of possibility for the existence of modernity as we know it, inclusive of car transportation, airplanes, shipping, consumerism, plastic use, and more (2012). Stephanie LeMenager adds that oil’s influence extends beyond fiction to other cultural forms, such as poetry, film, photography, and memoir, each of which register the material effects of petroleum in our daily lives. Indeed, she contends, “almost every media available to us today is materially and even philosophically indebted to oil” (2014, 68). The fact that petroleum so saturates modernity raises the question: what would it take to transition off of oil?

Okorafor’s fictional antidote is the sudden arrival of shape-shifting aliens off the coast of Lagos (first encountered by the swordfish), who precipitate a radical shift in Nigeria’s ecological, economic, and social well-being. With the ability to painlessly reorder matter itself, the aliens cleanse the ocean of spilled petroleum and build a coralline residence under the sea, granting wishes to ocean creatures, including the swordfish, who asks to become bigger and stronger. At first the alien emissary, Ayodele, makes contact with only a select few humans: Adaora, a marine biologist; Agu, a soldier; and Anthony, a Ghanaian rapper. “We come to bring you together and refuel your future,” Ayodele reassures them. “Your land is full of a fuel that is tearing you apart” (107). Punning on fuel (petroleum) and refuel (to refill or rejuvenate), Okorafor introduces the aliens as the antidote to dependence on fossil fuels; they cleanse the ocean while also nudging lo-

calls to be more open-minded. *Lagoon* recognizes that the key to Lagos's survival is a clean ocean, purged of leaky oil-drilling operations that spill petroleum into the sea, a necessary process of renewal.

At first it would seem that *Lagoon* exemplifies the trope of the "alien ocean" (Helmreich 2009a); after all, it is the marine biologist Adaora who makes first contact with the aliens, perhaps because she already is familiar with strange sea creatures. Stefan Helmreich has observed that "marine biology is haunted by the figure of the alien—a sign of uncertainty about what the sea can tell us about life on Earth and the place of humans in this realm" (2009a, xi). The alien ocean manifests in a variety of cultural places: aquariums that portray marine creatures as aliens, narratives about marine microbes, films that imagine aliens emerging out of the ocean (e.g., *The Abyss* [1989]), and literary fiction. For example, Stanislaw Lem's classic novel *Solaris* imagines a sentient ocean planet as resisting scientific study "with all the serene tenacity of the godhead itself" (Jameson 2005, 108).

Yet *Lagoon's* ocean is not simply a space of alterity, but also an ancient and familiar element of Nigeria's traditional cosmologies. We come to learn that the aliens must contend with "things inhabiting Lagos besides carbon-based creatures" (122), a pantheon of indigenous deities that include Mami Wata (water goddesses, whose name comes from the Egyptian words *mama*, "truth or wisdom," and *uati*, or "ocean water" [Womack 2013, 86–87]), Ijele (god of the masquerade), and the giant spider or weaver god Udide Okwanka (a Nigerian god of stories and storytelling; lesser known, perhaps, than the spider/storytelling god Anansi).² These deities form the elements of *Lagoon's* narrative that, in the West, would be seen as folklore rather than science fiction. Darko Suvin offered one of the earliest definitions of science fiction as having a "novum," a new possible technology, existence of aliens, etc., that would be logically possible within the world of the novel, producing the effect of "cognitive estrangement" (1979, 3–4). Building on Suvin's definition, Carl Freedman insists that the genre of science fiction maintains a "continuum with the actual" in distinction to the "irrationalist estrangements of fantasy or Gothic literature" (2000, xvi), a disavowal that would likely include the "irrationality" of folklore as well. That *Lagoon* has elements of both science fiction (the novum of the technically sophisticated, shape-shifting aliens) and folklore (the copresence of African deities) troubles the prescriptive distinction between genres.

Yet by foregoing realist conventions, *Lagoon* risks not being taken se-

riously as literature. As Ainehi Edoro observes, referencing the debates between Chinua Achebe and Ayi Kwei Armah from the 1970s, “African writers—especially those who aren’t writing highbrow realist fiction—are always under pressure to justify their aesthetic choices,” given that “stories that experiment with non-realist forms stand a greater chance of being dismissed as imitative, inauthentic, and unserious” (2015). Still, African writers like Ben Okri have valued “non-realist” modes, arguing that “the problem of realism is that it does not catch the full richness of reality. For instance, I saw the presence of myth which does not have any place in conventional realism. . . . [R]eality is not in the realism” (quoted in Khakpour 2015). Similarly, Kumkum Sangari values the folkloric, “forged within the insistent specificity of a localized relation,” as a strategy of survival and as a nonmimetic means of revealing ideologies, opening a new “politics of the possible” (1987, 181). A “politics of the possible” manifests in *Lagoon* through indigenous cosmologies together with the idea of the scientific novum, which combine in the figure of the alien to “refuel” Lagos’ future.

Beginning with *Lagoon*’s entanglement of the novum and indigenous cosmologies—the strange and the familiar—what draws my attention is how Adaora studies the aliens. Rather than panicking at the sight of a non-human visitor, Adaora sustains an open curiosity toward Ayodele and her people, who have mainly settled in the ocean. Unlike other science fictions that imagine the ocean/alien as a kind of unknowable alterity, *Lagoon* characterizes Ayodele’s people in terms deeply familiar, resembling Mami Wata and even coral reefs: they build underwater stone structures and are composed of many “conscious particles” that also form larger bodies. The aliens in *Lagoon* are thus “ontologically amphibious” (ten Bos 2009, 74), suspended between indigenous cosmologies and marine collectivity, a characterization that suggests goodwill toward human beings. Their familiar characterization prompts Adaora, as a scientist, to confront Ayodele not with fear and skepticism—a rejection of the alien as somehow unbelievable or a hoax—but rather with a great degree of curiosity.

In this article, I claim that Adaora models a kind of intimate objectivity in which marine biology calmly confronts the elements of the folkloric and the fantastic. Because *Lagoon*’s scientific intimacy remains open to the surprise of the folkloric and fantastic, aligned with the novum, it constitutes a practice of resistance against western paradigms of scientific practice that are centered around control and domination of nature based on gendered forms of “knowing” carnally and cognitively (Keller 1995). Scholars in

feminist science studies have challenged the association of masculinity with objectivity and the mind and femininity with emotions and the body, arguing against the dominant model of objectivity in science that posits an outside world of objects ontologically separate from disinterested observers. Instead, feminist science scholars have favored accounts of objectivity that account for the embodied and partial nature of any observation, such as “dynamic objectivity” (Keller 1995), “situated knowledge” (Haraway 1990), and “intra-action” (Barad 2007). Responsive to these intellectual genealogies, Okorafor’s material-semiotic characterization of the aliens—as both like Mami Wata and coral reefs—facilitates Adaora’s practice of intimate objectivity, curious and open to elements of the folkloric, fantastic, science fictional, and other things that might seem impossible within *Lagoon’s* diegetic world. Intimate objectivity signals a relationship of open curiosity that does not pre-categorize the other—aliens, underwater cities, monstrous sea creatures, indigenous deities—ahead of time, into the genres of science fiction, fantasy, or the folkloric, nor does it disqualify them as “unrealistic” or threatening outright; instead, it cultivates a practice of listening to the other as a precondition for working toward common pursuits, like cleansing the ocean of oil. In what follows, I discuss how Okorafor’s oceanic Afrofuturism leads to a utopian politics of the possible, an intricate imagination of what a postpetroleum Nigeria might look like.

II.

In a note at the end of the novel, Okorafor writes that the idea for *Lagoon* emerged from her deep criticism of Neil Blomkamp’s 2009 film *District 9* for its stereotypical representations of Nigerians as scam artists, cannibals, and female prostitutes servicing the aliens and for its portrayal of black Africans mainly as “setting.” In response, she started “daydreaming about what aliens would do in Nigeria” (2016, 299), or its capital Lagos, a city that—unlike Tokyo, Los Angeles, or London—rarely appears in science fiction literature and film. Thus, *Lagoon* moves beyond the general orientation of Afrofuturism—“a way of imagining possible futures through a black cultural lens” (Womack 2013, 9)—and envisions Nigeria in particular as a richly detailed habitat for science fiction (Thomas 2000; Womack 2013; Carrington 2016). One character observes that “[m]uch of the world’s most famous extraterrestrial material, mainly meteorites, has fallen right here . . . [i]n Nigeria” (Okorafor 2016, 344). Egoro highlights another ex-

ample of this specificity, when a different character “sees the alien spaceship extended across the horizon at night and calls it ‘the devil’s danfo’ (‘danfo’ being the often rickety and unwieldy shared taxi used in Lagos)” (2015). That *Lagoon* even takes its name from the city itself, “Lagos” being the Portuguese word for lagoon, is highly suggestive, aligning past colonial forces with the potential encroachments of the ocean. Yet it also places seawater, alongside oil, as a central force of the novel, a fluid that “transcorporeally” binds human beings to the local ecology (Alaimo 2012), echoed by the following saying: “The cure for anything is salt water—sweat, tears, or the sea.”

Lagoon’s focus on the ocean coincides with a broad, interdisciplinary turn to the ocean as a site for rethinking critical methodologies and epistemological frameworks, expanding environmental imaginaries dominated by a focus on green forests and primarily terrestrial spaces (Buell 1998; Cohen 2012). Using the example of Atlantic crossings in the Middle Passage, Paul Gilroy suggests configuring history and area studies around ocean basins rather than continents (1995), a spatial reorientation that Ian Baucom calls “hydrographies” (1999). In a similar vein, scholars in the field of geography have proposed a more ocean-centric practice of “thalassography” to counter the earth-focused terrain of geography, with forms of shipping and navigation making the ocean always already a space of culture rather than something separate (Steinberg 2001; Peters and Steinberg 2014). Others have drawn attention to maritime literary histories and how the ocean necessitates an engagement with new modes of reading, including ocean-specific “chronotopes” (Cohen 2007), “tidalectical” relations between land and sea (Deloughrey 2007), ecocritical readings of Shakespeare (Mentz 2009; Brayton 2012), approaches to modernity (Cohen 2012; Casarino 2002), and ecologies of hope in Pacific literatures (Shewry 2015). In a special issue of *Proceedings of the Modern Language Association* on “Oceanic Studies,” Hester Blum suggests that sailors themselves not be the sole focus of a maritime humanities; in light of “landlocked” methodologies, “an oceanic turn might allow us to derive new forms of relatedness from the necessarily unbounded examples provided in the maritime world” (2010, 671). Blum’s choice of “relatedness” resonates with Afrodiasporic contexts, bringing to mind the ways that the ocean both connects and separates people in the Americas from the African continent (Glissant 2006; Wardi 2011).

Indeed, one of the recurring environments in Afrofuturism is the

ocean—imagined not as a space of absolute alterity, but rather as an element of traditional cosmologies and diasporic imaginations after the Middle Passage. In *Afrofuturism: The World of Black Sci-Fi and Fantasy Culture* (2013), Ytasha Womack dedicates an entire chapter to “The African Cosmos for Modern Mermaids (Mermen),” noting the influence of ancient Egypt and the Dogon, a West African ethnic group with a sophisticated astronomical lore. In Dogon cosmology, “the Sirius system is the home to the Nommos, a race of amphibians akin to mermaids and mermen who visited Earth thousands of years ago,” arriving on an ark and bringing knowledge of the stars (Womack 2013, 84). These stories—one source of Mami Wata and African mermaid myths—share similarities with contemporary science fictions. For example, the aliens in Octavia Butler’s *Xenogenesis* trilogy (1989) originated from a water planet and retain some aquatically evolved capabilities. The musical group Drexciya offers a sonic Afrofuturism that locates the ocean as a place of amphibious human evolution and Atlantis-like technical advances. In their 1997 album, *The Quest*, and in their subsequent discography, they imagine that the unborn children of pregnant women cast overboard in the Middle Passage somehow survived, transitioning from amniotic breathing to oceanic breathing. The “Black Atlantis” communicates itself to us in waves, an “ocean of sound” that leads to the future (Williams 2001). This fiction, told through bubbly electronic sounds and sustained currents of noise, itself shares kinship with Sun Ra’s 1969 jazz album *Atlantis* and Jimi Hendrix’s song “1983 . . . A Merman I Should Turn to Be,” evoking a psychedelic image of returning to the ocean in the face of terrestrial war. Thus, *Lagoon* participates in a long genealogy of Afrofuturist speculations that figure the ocean as both a means of cultural survival and a catalyst for future evolution, a familiar alterity.

Indeed, the arrival of the aliens does not mark a break with indigenous cosmologies and traditions, but rather a continuation of them. Okorafor frequently describes alien emissary Ayodele in relation to Mami Wata, a water goddess. In one passage, Ayodele “silently ran back to the water and dove in like Mami Wata” (2016, 13). Later, “She had piercing brown eyes that gave Adaora the same creepy feeling as when she looked at a large black spider. Her mannerisms were too calm, fluid and . . . alien. Adaora’s husband, Chris, would instantly hate this woman for all of those reasons. To him, this woman would be a ‘marine witch’” (17). Note the comparison of the alien to a marine witch or Mami Wata. Although Chris refers to

them as marine witches, this seems to express his anxiety over feminine power, and as we later find out, his commitment to Christian fundamentalism for which Okorafor admits little sympathy in the afterword: “[I]t’s teaching Nigerians to hate their own indigenous traditions, spiritualities, and religions. It’s one thing to move past what was there before. . . . [I]t’s another thing entirely to move past what was before because of a nasty form of hatred of one’s self in the guise of religion, brought or imported by outsiders and foisted upon people” (306). In this context, we might read Okorafor’s enfolding of Mami Wata and indigenous deities—the giant spider, the Bone Collector, and Ijele, the chief of masquerades—as a form of self-love.

Okorafor likens the alien Ayodele to Mami Wata not only in visual terms, but also in her actions and intentions. Mami Wata were very much part of cultural and environmental ecologies; they established theological and cultural foundations, regulated the flow of the Nile and ecology, and brought devastating floods when taboos were violated (Womack 2013, 86). Similarly, the aliens of *Lagoon* give wealth (or wishes) to their followers, for example, helping the swordfish grow to a monstrous size. Yet the aliens not only grant wishes, but also perform a function similar to Mami Wata in regulating, or at least changing, ocean ecology, cleansing seawater of pollution. They also share connections with ancient matrilineal traditions. In her two volume history *Mami Wata* (2007), Vivian Hunter-Hindrew (going by her Voodoo name Mama Zogbé) links the Mami tradition to an originary divine African Mother, who manifested to Africans as ancient water deities (male and female), “the first cultural and spiritual authors of civilization in Africa” (2007, 40). She also notes that Mami Wata may manifest to people in dreams, or “may simply ‘snatch’ an individual walking along the sea shore” (44). This is precisely what happens to Ad-aora, Agu, and Anthony at the beginning of *Lagoon*; they converge at Bar Beach, only to be dragged into the sea by an immense wave that safely transports them underwater to meet the aliens—an encounter that they only remember in dreamlike fragments.

The alignment of the aliens with Mami Wata suggests a relationship of trust—that they have the interests of the local people at heart. Ayodele says that the aliens are “guests who wish to become citizens. . . . We do not want to rule, colonize, conquer or take. We just want a home. What is it *you* want?” (Okorafor 2016, 105). In contrast, if we were in the universe of an American science fiction writer like Octavia Butler, who inspired Okora-

for (Womack 2013, 110), this would be grounds for deep suspicion. Many of Butler's novels feature beings—aliens, vampires, other—that can be alternately viewed as enslaving or symbiotically living with their human partners. Although Butler herself resisted readings of slavery into her work (Francis 2009), it is tempting to compare the alien “abductors” in Butler's *Xenogenesis* trilogy to the Europeans who “abducted” Africans in the transatlantic slave trade (Womack 2013, 17). Because *Lagoon* takes place in Africa rather than the Americas, it seems more plausible to see the aliens in *Lagoon* as benign and in the tradition of Mami Wata, rather than of abductors akin to European slave traders.

Lagoon not only blends the figure of the alien with Mami Wata deities, but also with coral. The first analogies to coral reefs occur early in the novel, in the chapter narrated from the point of view of the ecoterrorist swordfish. After spearing the pipeline, the swordfish awakes to find an expanse of sweet, clean water and sees “everyone swimming, floating, wiggling right into the glowing thing below,” which shifts before her eyes from “blue to green to clear to purple-pink to glowing gold” (Okorafor 2016, 5). The swordfish compares this “thing”—an alien ship—to the “paradise” of a coral reef, a “giant world of food, beauty, and activity,” “inhabited by sea creatures of every shape and size” (5). Yet the ship is “even wilder and more alive” than a coral reef, transforming the seawater into a kind of pharmakon: “a cup of its salty-sweet goodness will heal the worst human illnesses and cause a hundred more” (6). The alien spaceship at the bottom of the sea appears coral-like, a rainbow oasis for marine life that functions as a living habitat.

One of the defining characteristics of coral reefs is the way they blur assumed boundaries between individual and colony. Individual coral polyps live together in colonies, with each polyp hosting a form of symbiotic photosynthesizing algae, or zooxanthellae; as they grow, they build calcium skeletons. Indeed, coral collectivity has captured science fiction imaginations, from Osha Davidson's observation that seeing a reef underwater is “like being dropped into the center of a huge city on an alien planet” (Helmreich 2010, 53) to the sentient reef in Cory Doctorow's short story “I, Row-Boat” (2006). Coral collectivity has also been celebrated by artworks like Margaret and Christine Wertheim's *Crochet Coral Reef*, a tribute to the Great Barrier Reef drawing on traditions of feminist handicraft and hyperbolic geometry (Roosth 2012).

Like coral reefs, *Lagoon*'s aliens appear to be made up of many indi-

viduals. We first come to know of this multiplicity in a laboratory scene, where the marine biologist Adaora asks the alien Ayodele (who has taken the shape of Adaora's childhood friend) for a sample of her blood to look at under a microscope. Adaora shows her other two companions, Anthony and Agu, describing the image of Ayodele's magnified skin as "tiny balls . . . vibrating . . . metal-like," concluding that "[c]ertain types of metal powders look like that at two hundred times [magnified]. I think that's why she can . . . change shape like that" (Okorafor 2016, 19). In their ability to reorder matter so completely, the aliens embody a kind of nanoscale, metallic material. Adaora observes, "in a way, they [the aliens] are technology" (29)—one that could be used for either violent or utopian purposes. *Lagoon* offers a twist to Helmreich's observation that the alien "is often a fugitive trace, a constellation of uncertain evidence in motion" (2009a, xi), a description that aptly characterizes the vibratory arrangements of the shapeshifting aliens who, like the Greek god Proteus, frequently change form.

The way that *Lagoon*'s microscope scene embodies the practice of intimate objectivity (and feminist science) is perhaps best elucidated through a point of contrast. There is a parallel scene in Stanislaw Lem's *Solaris*, which concerns a possibly sentient ocean planet and the various ways that it thwarts studies by a small group of male scientists—who model a form of objectivity based on distant observation. Yet the *Solaris* ocean performs a kind of reflexive "reading" of the scientists themselves, scanning their brainwaves during sleep to produce simulacra of the people who haunt their dreams. In one scene, the protagonist tests the blood of a mysterious being that resembles his late wife, scarcely acknowledging what she is saying as he peers into the depths of the microscope. He penetrates the "silvery" landscape of her blood, only to discover that, after a certain resolution, her blood appears to be made of "nothing"—a cause of deep anxiety for him, given that he cannot control what he cannot see. This is a textbook example of the male gaze equating landscape and female body (Jue 2014), and the unequal power between scientists and their objects of study (Haraway 1997). By contrast, the microscope scene in *Lagoon* could not be more different: Ayodele willingly gives a sample of her blood, despite having superior strength and capabilities, and chooses to look like Adaora's childhood friend and equal. Indeed, Adaora responds to the strangeness of the blood sample not with anxiety, but with joy, she "chuckled, feeling an ache of excitement deep in her belly" (Okorafor 2016, 18). Unlike *Solaris*, the oceanic does not figure as absolute alterity, or the limit

point to human knowledge; rather, *Lagoon* foregrounds how the presence of the aquatic “alien” can be embraced without fear or threat to one’s own autonomy as a subject.

Adaora’s joy is symptomatic of her practice of intimate objectivity in the face of the fantastical arrival of aliens and the appearance of indigenous deities. Whereas Adaora’s husband Chris, his Christian priest Father Oke, and many soldiers react violently to the presence of aliens with incredulity followed by fear and emotional outbursts, Adaora, as a marine biologist, calmly speaks with and learns from Ayodele. Adaora reflects, “When she was afraid, nervous, or uncomfortable, all she had to do was focus on the science to feel balanced again” (Okorafor 2016, 23). We might interpret Adaora’s turn to science as an intentional choice to cultivate a calm rationality in the face of the fantastic and the alien—a rationality that does not discredit or presume that the fantastic must be evil (as does Chris), nor that the fantastic cannot be real. Rather, science lends a practice and a politics to Adaora’s encounter with the science fictional aliens and her own latent marine witch-like powers. We learn that the two allies Ayodele chooses to help Adaora—Anthony and Agu—both had moments in their past where they stood up to violence against women that revealed latent supernatural abilities. When Anthony’s relatives blamed his mother for his father’s sudden heart attack and came to take all her possessions, he used his ability to channel what he calls the “rhythm”—something like a sonic pulse—to fling them all backward. When Agu saw his commanding officer attempt to rape a woman, he channeled an unexpected surge of super strength to prevent the attack. Even Adaora’s marine witch-like abilities only emerge after Chris slaps her for the first time. In these ways, *Lagoon* frames masculine violence itself as irrational, incurious, and reactionary, in contrast to a feminist practice of intimate objectivity that confronts aliens and the fantastic with curiosity, channeling magic to defend victims of patriarchal aggression.

Adaora’s practice of intimate objectivity shares kinship with Evelyn Fox Keller’s concept of “dynamic objectivity” (1995). Keller theorizes “dynamic objectivity” as a practice that

grants to the world around us its independent integrity but does so in a way that remains cognizant of, indeed relies on, our connectivity with that world. In this, dynamic objectivity is not unlike empathy, a form of knowledge of other persons that draws explicitly on the commonality

of feelings and experience in order to enrich one's understanding of the other in his or her own right. (1995, 117)

Keller's theorization of dynamic objectivity emerges out of her biographical study of Nobel laureate Barbara McClintock in *A Feeling for the Organism* (1984). Studying the genetics of corn, McClintock described the need to "listen to the material" and, because the complexity of nature exceeds one's imagination, one should "let the experiment tell you what to do" (Keller 1995, 162). The intimate objectivity that emerges in *Lagoon* shares Keller's comparison with an empathy that draws on a "commonality of feelings and experience," but differs in that it involves a commonality of feeling and experience specific to Nigeria in its postcolonial, petrocultural, folkloric, and science fictional contexts.

Indeed, *Lagoon* imagines an Afrofuturist marine biology where elements of the fantastic (perhaps counterintuitively) enhance the practice of science. This is best exemplified by Adaora's calmness when she finds, in one oceanic visit, that Ayodele has turned her into a mermaid and discovers her own powers to manipulate water, realizing, "I am a marine witch" (280)—a form, it turns out, she has desired all along. In some ways, this evokes Jacques Cousteau's early experiments with scuba diving and the haptic desire to "feel what the fish scales know" (1953, 3), a form of subjective knowledge framed by the scientific study of the limits of the human body underwater. Yet while *Lagoon's* feminist, fantastical marine science shares Cousteau's interest in becoming-fish, it abjures the desire to settle or control the ocean portrayed in films like 1964's *The World without Sun*, which portray an intimacy directed toward the control/colonization of the continental shelf for human habitation. Although Adaora realizes that she will need help from shark experts and other marine scientists to adequately study the new monstrous creatures that have been changed by, and in some cases merged with, the undersea aliens, she does not imagine that Lagosians would colonize the sea. Instead, she imagines something akin to the intimacy at a distance facilitated by remotely operated vehicles (ROVS) and other technologies that bring images of benthic organisms directly to the computer screens of marine scientists, conjuring oceanic telepresence (Helmreich 2009b).

III.

Okorafor's conclusion is that Lagos could benefit from more intimate objectivity. Despite the alien's success at remediating the ocean ecology and cleansing it of oil, violence seems to be the one illness, so to speak, that will not go away. There are several moments in the novel where Ayodele—despite being able to shapeshift—seems surprised that she can experience pain. When a scared soldier shoots Ayodele, Adaora observes, “*The way she [Ayodele] was screaming and thrashing, she was not just in pain, she was shocked to be in it*” (Okorafor 2016, 141; emphasis in original). Realizing that even her powerful abilities will not be able to change minds and hearts, Ayodele sacrifices herself, dispersing into a seminal white mist, vaporous and inhaled by everyone in the region, clarifying that the aliens are conscious at every scale: “We are a collective. Every part of us, every tiny universe within us is conscious. I am we, I am me” (262). While Ayodele's dissemination shares similarities with crucifixion narratives of divine sacrifice, I read this moment as a coral reproduction event that spawns alien particles into the fluid atmosphere in order to sow the seeds of open-mindedness and acceptance of difference in the broader public. Indeed, the Nigerian president reflects, “Ever since Ayodele had dissipated, he had been feeling strange. Not only did he crave raw garden eggs [Ayodele's favorite tomato-like vegetable], but he felt so calm, as if all that had happened was something he could understand” (272). The President's calmness aligns him with Adaora's intimate objectivity, a feminist epistemic approach that meets the fantastic and science fictional with an openness that allows for mutuality, rather than fear and skepticism. This shift manifests itself not only in cognitive openness, but in the president's embodied craving for raw garden egg, in the transcorporeal pleasure of eating. Of course, Nancy Tuana reminds us that although a certain porosity allows us to flourish (breathing, eating), “this porosity often does not discriminate against that which can kill us. We cannot survive without water and food, but their viscous porosity often binds itself to strange and toxic bedfellows” (2008, 198) such as plastic and other toxins that circulate in flood conditions. The dangers of “opening” oneself to external risk should thus not be lost on our coral analogy, given that coral sometimes extrude their guts in order to digest their neighbors (Feltman 2016). Yet overall, the coral spawning leaves everyone a little bit alien, a little bit more receptive to the fantastical arrival of difference as a regenerative force.

Through its engagements with both the cosmological and earthly, *Lagoon* complicates an easy equivalency between intimacy and physical

proximity. Because the attributes and actions of the aliens in *Lagoon* resonate with Dogon tales of the Nommos, an amphibious people originally from the Sirius star system, there is the sense that the aliens are not entirely new or entirely foreign, but have been with Lagos for a long time in the form of *stories*. Stories, narratives, myths, the folkloric might be said to foster a sense of intimacy with interstellar life, rendering it part of the explanatory fabric of lived experience despite its great distance away. In this way, *Lagoon* treats the cosmological with a sense of intimacy that brings to mind the kind of epistemic shift best articulated by New Zealand anthropologist Epeli Hau'ofa. Hau'ofa wanted to change the perception of the “smallness” of Pacific islands, isolated “in” the vast Pacific Ocean, and liberate people to think of a “sea of islands” comprised of the “totality of their relationships” (2008, 31). Taking inspiration from Hau'ofa, we might compare islands and planets, often viewed in the West as suspended in the vast sea of the cosmos. Thus for Okorafor, Nigeria has always already been interstellar through its archive of myths and stories, rich in stories of interconnection with the stars.

Indeed, *Lagoon's* evocation of an ancient archive of African cosmology, combined with the science fictional novum of alien arrival, offers a tectonic shift away from petroculture and its residues. This imagined discontinuity functions as the “break that opens the space for fiction” (Ricouer 1990, 45) in the fabric of Nigeria's present—a present that has, so far, failed to achieve the escape velocity necessary to escape the gravitational pull of Shell Oil and other petroleum companies. Diagnosing the failure to imagine alternatives, Fredric Jameson has memorably said, “[I]t is easier to imagine the end of the world than the end of Capitalism” (Jameson 2003), or perhaps in this case, “fossil capitalism” (Malm 2016). Although *Lagoon* is not the kind of realistic roadmap that shows exactly how to bring a more utopian future into being (Jameson 2005), the arrival of aliens—who are interstellar, oceanic, and evocative of indigenous deities all at once—is the event that seeds the possibility of a rupture with the oil consumption that sustains our lived experience of modernity. Imagining that this rupture has already occurred frees Okorafor from explaining how the rupture might occur, enabling her to venture into the important work of world building and imagining new forms of postcolonial, feminist science in its foamy wake.

Acknowledgments

Many thanks to Lauren Pawlak, Stefan Helmreich, Bishnupriya Ghosh, and Ainehi Edoro for their invaluable feedback on drafts of this article.

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Notes

1. The first chapter of *Lagoon* was originally published as the short story "Moom!" published in *Afro SF: Science Fiction by African Writers* (Hartmann 2012). Okorafor attributes her inspiration for the swordfish attacking an oil pipeline to an actual 2010 news story run by Reuters, "Swordfish Attack Angolan Oil Pipeline."
2. In an interview, Okorafor writes how she was visited by spiders prior to writing the novel *Who Fears Death* (2010). She speculated that the spider might be the storytelling god Anansi, or better, the lesser-known Nigerian spider storytelling god Udide Okwanka: "He is the supreme spider artist who toils beneath the ground, in the *ekwuru* (the spirit world). He possesses the power to gather fragments of any object and shape them into a new object" (Scalzi 2016; emphasis in original).

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