Beyond "The Last Doubler": Reproductive Futurism and the Politics of Care in Larissa Lai's *The Tiger Flu*

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The immediate effects of COVID-19 on gender inequality are already showing themselves in health and education, on the burden of unpaid care work and gender-based violence.

— United Nations (3)

RECENT UNITED NATIONS HUMAN DEVELOPMENT WORKING paper titled "Gender Inequality and the COVID-19 Crisis: A ► Human Development Perspective" illuminates how COVID-19 disproportionately affects the health and livelihoods of women and girls in all parts of the world. As paid caregivers, women make up seventy percent of workers in the health and social sectors globally; eighty-five percent of nursing personnel in very high, high, and medium human development groups; and "almost half of doctors for all countries except those with low human development" (4). During a public health crisis, a disproportionately large percentage of women serve as professional caregivers, making them both an essential part of COVID-19 relief efforts and more at risk of contracting the virus. School, daycare, and clinic closures meant to slow the spread of COVID-19 likewise augment the pressures placed on women caregivers, both paid and unpaid. The COVID-19 pandemic is exposing the limits of heteronormative family structures and inequitable models of care — which over-rely on unpaid women caregivers — that neoliberalism historically has relied on to reproduce itself.

Larissa Lai's 2018 novel, *The Tiger Flu*, challenges and dismantles such neoliberal models of care built upon notions of purity, compelled care/labour, and reproductive futurism. Using an intersectional lens, the novel takes up questions of reproductive justice and coerced care, emphasizing the interplay among race, gender, and sexual orientation in care relations. Read today, at the height of the COVID-19 pandemic, the novel feels almost prophetic. Set in the future, in a world torn apart

by the deadly Tiger Flu, the novel tells the story of two women: Kirilow, a surgeon from the female clone colony of the Grist village, and Kora, a girl from Saltwater City. When Kirilow's Grist village, a community of queer parthenogenically reproducing doublers and organ-regenerating starfish, is attacked, Kirilow must travel to Saltwater City in search of other Grist sisters. While taking refuge at the Cordova Dancing School for Girls — itself a Grist commune — Kirilow meets Kora and discovers that, unknown to Kora herself, she is a Grist starfish able to regenerate lost organs. But before Kirilow and Kora can return to the Grist village, they are kidnapped by a powerful male elite working to treat the Tiger Flu by curing the mind of the body. Kora and Kirilow must escape dictators, technological dangers, and diseases in order to return to and rebuild the Grist village.

Although it is tempting to read *The Tiger Flu* as centred on a pandemic, Lai is concerned more with the repercussions of the Tiger Flu as a pandemic than with the disease itself. *The Tiger Flu* delves into the kinds of pressures placed on women caregivers, like Kirilow and Kora, to illuminate the dangers of addressing public health through discourses of purity, compelled care, and reproduction. *The Tiger Flu* recognizes that discourses centred on purity, care, and "reproductive futurism" (Lee Edelman's term for a neoliberal ideology in which the figure of the child is central) are often invoked with good intentions. Yet it cautions against relying on these often exclusionary framings to inspire care, conceptualized by Maria Puig de la Bellacasa as "labor/work, affect/affections, [and] ethics/politics" (5), even in the face of a deadly pandemic.

In their introduction to *Queer Ecologies*, Catriona Mortimer-Sandilands and Bruce Erickson take on a position similar to Edelman's to critique the exclusionary "repro-centric' environmental position," which presents same-sex desire in nonhuman species as a sign of "ecological decline" to inspire environmental care (11). In the same way that Lai's novel presents care compelled or inspired by purity discourses and reproductive futurism as dangerous, Mortimer-Sandilands and Erickson argue that proponents of reproduction-focused environmentalism are often "well-meaning ecologists" whose efforts to draw attention to real environmental problems inadvertently and dangerously reinforce a flawed evolutionary logic that pathologizes same-sex relations (11). The question that Mortimer-Sandilands and Erickson, along with Edelman, pose is one of method. How can writers and activists ethically advocate for care, both environmental care and health care, without falling back

on queer-phobic logics, coercion, and the age-worn plea that it is all for the children? *The Tiger Flu* begins to answer this question by looking toward models of communal care based on connections with more-than-human beings and shared histories.

In a plague-torn world, The Tiger Flu suggests, exclusionary discourses are dangerous. Emphasizing sexual, physical, or ecological purity, demanding care from those who are traditionally expected to provide it, and subscribing to ideologies centred on the well-being of the child lead to disease, destruction, and even death. However, though the world can be torn apart by a plague, it can also be rebuilt in a more inclusive and sustainable way as a result of it. I argue that The Tiger Flu offers alternative ways of thinking about the relationship between biological reproduction and environmental care through its depiction of the Grist sisterhood, a queer feminist collective of organ-harvesting clones. The novel first deconstructs the heteronormative and reprocentric logics that underlie neoliberal models of care and then imagines a mode of futurity that infuses both agency and sexual diversity into care and family relations. First I contextualize The Tiger Flu within a framework of speculative and Asian Canadian literatures to suggest that it is uniquely positioned to inspire activism and environmental care. Next I examine the Grist sisters' paradoxical interest in both organ harvesting and bodily purity to suggest that bodily purity is a pursuit that the Grist sisterhood must abandon to survive. Then I examine the novel's treatment of caretaking via the character of Kirilow, a Grist "groom" forced to harvest the organs of her "best beloved" (10), to highlight the novel's critique of models of care that deny agency to the caregiver. And finally I explore how the novel's final chapter rethinks the discourse of reproductive futurism to imagine a future that revolves around acts of environmental care and memory but does not rest on the reproduction of a heteronormative family nucleus in the service of a neoliberal state. In our current moment, as societies across the globe struggle with the COVID-19 pandemic alongside climate change and social inequality, Lai's speculative novel provides a welcome vision of how inclusion and care can create a world that learns from, rather than repeats, past mistakes.

Speculating Activism

"Speculative fiction, a generic category derivative from science fiction,

has gained considerable currency among Asian American writers and critics during the past two decades," writes Jingi Ling in a chapter of *The* Routledge Companion to Asian American and Pacific Islander Literature (497). Although Ling's work deals with American literature rather than Canadian literature, several of his points are applicable to my work with The Tiger Flu as a speculative novel that inspires environmental activism. Ling, citing Carl Malmgren and Brian McHale, suggests that speculative fiction and science fiction require oscillation between two world visions: "extrapolation," which extends current scientific knowledge to imagine alternatives to social realities, and "speculation," which imagines scenarios beyond what is currently thought possible. The Tiger Flu, like many of the works that Ling identifies, shows a marked shift toward speculation and imagines a future that does not seem to be inevitable but must be worked toward through effective models of care. The novel thus becomes a form of activism, an attempt to create the kind of care for which it calls. In a chapter of the Routledge Companion titled "Asian Canadian," Donald Goellnicht and Eleanor Ty maintain that Asian Canadian creative writers and activists have a rich tradition from which to draw for both their creative works and their political activism. Lai herself takes up the question of literature as activism in Slanting I, Imagining We: Asian Canadian Literary Production in the 1980s and 1990s, saying, in her chapter on Oryx and Crake, that, "as a dyed-in-the-wool activist, I still long for the text that is also a call to action" (200). I couple Ling's points with Goellnicht and Ty's argument that activism is a key aspect of Asian Canadian literature to suggest that speculative writing by Asian Canadian authors such as Lai is uniquely situated to inspire activism and care in the reader. Rather than simply extrapolating from the world as it is, The Tiger Flu, like many of Lai's novels, speculates on what a more inclusive society can be.

Although scholarship on *The Tiger Flu* is still sparse, several critics have addressed questions of purity, reproduction, and queerness in Lai's 2002 speculative novel, *Salt Fish Girl*. While discussing questions of hybridity, Hee-Jung Serenity Joo suggests that the alternating narrators of *Salt Fish Girl*, structurally similar to *The Tiger Flu*'s Kora and Kirilow, model a body that, rather than being a simple hybrid, is constantly recoded in a process of "racial formation" (47). Christopher B. Patterson and Y-Dang Troeung investigate the ways in which queerness encourages a conceptualization of reproduction that exceeds "biological parameters" (75) and resists reproductive futurism while

linking memory to multigenerational queer and feminist solidarity (76). Similarly, Mónica Calvo-Pascual argues that the creation of "an all-female extended family" (414) by the Sonias, a sisterhood of queer clones similar to the Grist sisters, disrupts the heteronormative conception of the nuclear family. In Reproductive Acts: Sexual Politics in North American Fiction and Film, Heather Latimer suggests that Salt Fish Girl examines how technologies interact with "reproductive politics" in a way that celebrates, rather than fears, births that are "genetically 'mixed' and 'flawed'" (105). Building upon these discussions of the body, reproductive futurism, and family dynamics in Salt Fish Girl, I suggest that The Tiger Flu, like Lai's earlier novel, embraces a kind of messy inclusivity that goes beyond neoliberal ideas of body and family. Although The Tiger Flu begins with the Grist sisters embracing notions of bodily purity, compulsory care, and reprocentrism, it ends with the Grist sisters, like the main characters of Salt Fish Girl, abandoning these discourses to seek more inclusive forms of familial and environmental care.

Im/purity

In an early chapter of *The Tiger Flu*, Kirilow explains that, thanks to their parthenogenic reproduction, all Grist sisters are genetically "pure" and share the unmixed "DNA of just one woman" (20), a Grist sister who escaped Saltwater City eighty years prior to the events of the novel. One symptom of this genetic purity is that all Grist sisters look like one another, exhibiting the same hair and skin colour, a fact that allows Kirilow to easily recognize visitors from "impure" Saltwater City. Throughout the novel, she displays an obsession with the Grist sisterhood's purity, violently rejecting anything that — or anyone whom she perceives as different. When Kirilow finds a red-headed Salty starfish in the woods surrounding the Grist village, she captures the intruder and brings her home. Following a moment of bonding with the Salty, Kirilow's beloved Peristrophe Halliana begins to cough, showing signs of the Tiger Flu. Noticing her beloved's symptoms, Kirilow assumes that the Salty had come to "infect" the Grist sisters (72). Angry, she forces the Salty to leave, insisting that the Grist sisters "don't want [the Salty's] dirty blood" or her "dirty biomatter" (72). Her repetition of the word *dirty* reveals a deeply rooted investment in notions of genetic and bodily purity. For Kirilow, to be "dirty" implies both a physical and a moral condition. She sees the Salty as "dirty" not only because she is

sick but also because she believes that the intruder came to the Grist village with the express purpose of infecting the sisterhood. Although Kirilow's hatred of the "dirty" Salty might seem to be justified since the latter infected Kirilow's lover with the Tiger Flu, Lai presents Kirilow's overreliance on purity discourses to define her community as more dangerous than the disease itself. Whereas the Salty's visit causes the death of one Grist sister, her expulsion by Kirilow puts the entire village in danger. By rejecting the Salty starfish, Kirilow leaves the Grist village without a single starfish and thus in danger of extinction. Moreover, the Tiger Flu kills Peristrophe because, as the Grist's last starfish, her body was overharvested to provide replacement organs for her sisters, leaving her vulnerable to illness. Lai highlights that the Grist sisterhood relied on just one woman to provide replacement organs for the whole village to reveal that their purity-focused model of reproduction is unsustainable. By problematizing Kirilow's rejection of the Salty, Lai critiques her overreliance on purity discourses to define her community.

In Against Purity: Living Ethically in Compromised Times, Alexis Shotwell discusses how constructions of "dirt" and the "dirty" "work to delineate an inside and an outside; [they] are practices of defining a 'we" (13). In The Tiger Flu, Kirilow uses the language of "dirt" and the "dirty" to do exactly that. She yells at the Salty to get "Out, out, out, out, out!" and in the same breath calls the Salty's blood and biomatter "dirty" (72), linking the ejection of the Salty from the Grist village to her perceived dirtiness or impurity. Kirilow's positioning of the Grist sisterhood as a clean inside not to be infected by dirty and impure Salties is ironic because, though the Grist sisters might be "pure" genetically, they are hardly an example of bodily purity since their survival relies on constant organ transplants. Because of the "flaws in [their] limited DNA," the Grist sisters "mutate for better or worse" and can only survive thanks to their starfish, who support the village "by regrowing whatever grooms like [Kirilow] cut out of them" (20). Despite their uniform DNA, Grist bodies are always already composites of DNA mutations and transplanted organs, never pure units. After the starfish Peristrophe dies and the rest of the sisters are captured, Kirilow is forced to abandon her commitment to purity and venture into Saltwater City, the site of all that she sees as impure, to find more Grist sisters. Kirilow, like the characters in Salt Fish Girl, is on a "search for [her] 'imagined community" (Cuder-Domínguez 118). Although she starts off examining herself in relation to her genetically pure "ethnic community" (119),

embodied in the Grist village, once the last starfish dies, she must venture out into Saltwater City in order to find a new starfish and ensure the survival of the village. For Kirilow, purity is a starting point for forming a community but not the ultimate destination.

As Lai problematizes Kirilow's rejection of the Salty, she critiques her overreliance on purity discourses and challenges environmentalism that reinforces genetic and gender essentialist logics and deploys queer-phobic tropes to advocate for environmental care. This concern is further reflected in the novel's construction of a postapocalyptic future plagued not just by disease but also by a grossly skewed sex ratio. The world of *The Tiger Flu* is dominated by women. Who is included in the term "women" is largely undefined, but in that world the distinction between "men" and "women" seems to be clear. The Tiger Flu infects men more than women. Men are more likely to get sick and more likely to die. The few men who are left in Saltwater City are mostly sickly and grotesque figures like the tiger men. In a world overrun by dirt and disease, it is the men who are seen as the most endangered. In her discussion of purity discourses and the herbicide Atrazine, Shotwell highlights how worries about the effects of herbicides are often supplemented "with a complex queer-phobic worry that EDCs [endocrine disrupting chemicals], especially herbicides[,] are making us, or imagined future children, queer or trans" or that they are causing a disproportionate number of babies to be born female (87). Shotwell quotes a Men's Health article on industrial pollutants in Canada as saying that, "On an Indian reserve in Canada, girls rule the day-care centers, the playgrounds, and the sports teams" because fewer and fewer boys are being born (87). This emphasis on a disproportionally large female population as a result of toxic pollutants is highly reminiscent of The Tiger Flu's men-killing epidemic.

Although Shotwell identifies purity-focused environmentalism as raising awareness about issues of pollution by pathologizing queerness and perceived gender impurity, on the other side of the purity-focused environmentalist scale, David Bell recognizes how, in queer advocacy, same-sex desire is often "naturalized" through the figure of the queer animal, whereas homophobia is "denaturalized" as a "culturally specific human response" to homosexuality (137). Although Bell acknowledges that this purity discourse is meant to foster greater acceptance of same-sex desire, he sees research on animal queerness as staging "a troubling re-essentialization or renaturalization of same-sex sex acts" (137).

Gender impurity and queerness in animals then become the sites of both queer phobia and queer empowerment. Although politically opposed, both modes of thought result in the essentialization of sexuality as either "natural" or "unnatural." Lai's Grist sisters exemplify this paradoxical investment in gender purity. They are a queer feminist collective of organ-harvesting clones living in a rural environment. Each facet of their identities — queer, feminist, community oriented, posthuman clones, and rural dwellers — can be coded as an emblem of either purity or impurity. The ambivalence of purity as a discourse is its danger. Purity discourse is essentially exclusive. As Shotwell writes, "Purism is a de-collectivizing, de-mobilizing, paradoxical politics of despair" (9). Whether it leads to the Grist sisters being expelled from Saltwater City for their organ harvesting or Kirilow ejecting the red-headed Salty from the Grist village, the novel demonstrates that purity is a dangerous framework for environmental activism and a harmful basis for collective organizing.

As she dies from the Tiger Flu, Peristrophe begs her lover Kirilow to "go to Saltwater City. . . . Find a new starfish and a new doubler and bring them back" (Lai, Tiger Flu 78). Unlike Kirilow, Peristrophe is unconcerned with Saltwater City's impurity. Being a starfish whose organs are regularly harvested to be transplanted in others, Peristrophe understands better than Kirilow the precarious ground on which notions of bodily purity rest. Although Kirilow initially refuses, once the sisterhood is attacked, she must abandon her ideal of Grist purity and venture into Saltwater City. In another ironic twist, while there Kirilow discovers that the red-headed Salty that she so persistently labelled a dirty outsider was a Grist sister herself. While working as a Doctor in Saltwater City's Cordova Dancing School for Girls, Kirilow learns that the "Cordova School was the Grist Commune" (172) and that the red-headed Salty was the school's last starfish. The Salty that Kirilow labelled a dirty intruder and forced out of the Grist village is actually the starfish that her sisterhood needed. By debunking Kirilow's reliance on genetic uniformity and bodily purity via the characters of Peristrophe and the red-haired Salty, *The Tiger Flu* highlights the danger of using purity discourses to define a community.

The novel offers an alternative kind of community — one based on shared knowledge and memory rather than genetic, bodily, or gender purity — through its portrayal of the Cordova Dancing School for Girls. On her deathbed, Madame Dearborn, leader of the school, tells

Kirilow that it was a Grist Commune where some Grist sisters hid while others escaped to the Grist village. Unlike Kirilow, Madame Dearborn does not see purity as the key to Grist survival. She tells Kirilow that, as the Dancing School Grist sisters' "numbers dwindled, we brought in orphans so we could pass our history and survival techniques on to them" (172). Although the Grist village excludes all who are not Grist sisters, the school takes in orphans, forming solidarity within their community by sharing their "history and survival techniques." Their way of forming solidarity while recognizing difference is reminiscent of Lai's argument, in Slanting I, Imagining We, that "the umbrella term 'people of colour' opened plenty of opportunities for interaction along a range of identifications" (93) productively and without erasing difference. Whereas the Grist village obsesses over purity and expels a much-needed starfish because of it, the Cordova Dancing School's inclusion of outsiders allows the school to remain afloat. Moreover, it is the dancing girls who bring Kirilow to Saltwater City, where she finds the starfish Kora, who ultimately saves the Grist sisterhood. For the Grist sisters, discourses of purity, which at first appear to be healthy and helpful, turn out to be destructive and almost fatal. Inclusion and the sharing of knowledge, not exclusion and purity, allow the Grist sisters to survive.

Careful Agency

Just as Kirilow and the Grist sisters must reject purity discourse to survive, so too they must resist and ultimately reject models of care that deny agency to the caregiver. The Tiger Flu opens with Kirilow struggling with an act of care that she is called to perform. "Even if she is our last doubler," Kirilow says, "I don't want Auntie Radix to have Peristrophe Halliana's eyes" (18). The words I don't want reveal the tension of her position. Kirilow is a Grist groom, a caretaker-surgeon, whose "duty" is to care for the starfish Peristrophe (19). But the way in which Kirilow must care for Peristrophe is paradoxical. In the introduction to her book Matters of Care: Speculative Ethics in More than Human Worlds, Puig de la Bellacasa identifies three "dimensions" of care: "labor/work, affect/affections, [and] ethics/politics" (5). For caregivers such as Kirilow, these three dimensions exist in tension with and contradiction to one another. On the level of labour/work or duty to the Grist sisterhood, Kirilow cares by surgically removing Peristrophe's organs so that they can be transplanted to doublers such as Auntie

Radix. On the level of affect/affection, Kirilow cares for Peristrophe as her lover. The tension between care as affection and care as duty is a gendered one. The position of groom encompasses both the need to love and nurture one's charge, a task often gendered as female, and the medical responsibilities of performing surgeries and transplants, a task typically gendered as male. Christine Kim argues that depictions of caregiving in Shani Mootoo's Cereus Blooms at Night, via the character of Tyler, a queer male nurse, present gender as "a malleable social system capable of generating multiple possibilities that extend beyond the division into male and female" (156). Kirilow, who shares Tyler's medical profession, also blurs the line between traditionally female and male kinds of caregiving and disrupts the gendered assumptions that shape this division of labour, presenting care as part of a complex and malleable, if gendered, system. By having Kirilow perform both kinds of care, Lai reveals the complex reality of gendered caregiving, of expecting a female caregiver to feel affection for her charge while coolly slicing her open during an operation. In Kirilow's case, the tension between care as love and care as occupation and duty reveals the ethical complexity of care and highlights her limited agency as a caregiver.

Lai also foregrounds the racial dynamics at play in Kirilow's caregiving. The work of Rhacel Parrenas on migrant domestic workers highlights how paid caregivers are often at the intersection of several forms of oppression as women, as people of colour, and as poor. In Forced to Care: Coercion and Caregiving in America, Evelyn Nakano Glenn reveals that, according to US Census data, at least half of paid caregivers in America are people of colour, with many coming from the Global South, specifically from Latin America, Africa, and Asia. Is Kirilow a woman of colour? She describes herself and the other Grist sisters in The Tiger Flu as having "crow-black hair, autumn-leaf skin, and short legs," using signifiers that, though not overtly racial, do juxtapose her appearance to that of the "tall, pale, and gangly" red-haired Salty (36). More significant, however, is that the way in which Kirilow is forced to care recalls the conditions that many women of colour from the Global South face when working as caregivers. Employing women from the Global South as caregivers, Glenn explains, "is particularly effective in 'familizing' paid care work" (181) because it recreates the neoliberal family dynamic between early-twentieth-century housewives and their servants and thus keeps care labour in the realm of the domestic. The dynamic between Auntie Radix and Kirilow maps easily onto Glenn's

housewife-servant relationship, with Peristrophe as the ultimate receiver of this (dubitably desirable) care. Moreover, Glenn writes, "If caring is viewed as a cultural trait or a natural attribute of women from Latin America, Africa, and Asia, then their labor can be seen as effortless and not real work" (181), thus reinforcing both the myth of the private neoliberal family that can "take care of itself" and racial stereotypes. The fact that Kirilow goes from being an unpaid, coerced caregiver to being a respected surgeon is thus even more significant. By equating domestic care labour and the profession of Doctor, Lai advocates for greater recognition of the care labour performed by, and often coerced from, marginalized women of colour.

In The Tiger Flu, Lai questions models of care that deny agency to the caregiver by showcasing the ineffectiveness of compelled care. Kirilow's agency as a caregiver is constantly limited by the Grist sisterhood's moralizing about her caring practice. As with Peristrophe's eyes, when Auntie Radix "asks for Peristrophe Halliana's heart," Kirilow wants to refuse but knows that, according to the Grist teachings, "if the Grist is dying down to the last doubler, her word is flesh, her word is god. You can't say no" (33, 34). Duty, with its moralistic connotations, is used throughout the first part of the novel to compel Kirilow to commit acts of care that she would rather avoid. That Lai critiques rather than condones acts of compulsory care is evident in the way that the Grist sisterhood destroys itself by the end of Part 1. Even before the batterkite attack, the Grist sisters are already in a desperate position. Their last doubler, Auntie Radix, dies as a result of a heart deficiency and Kirilow's reluctance to give up Peristrophe's heart. Peristrophe, the last starfish, dies soon after from the Tiger Flu, which takes hold of her "frail, over-harvested body" quickly and fatally (32). Lai presents compulsory care not only as ethically and morally deficient but also as ineffective. It cannot keep the Grist village alive. Compulsory care forces Kirilow to overharvest her lover, weakening Peristrophe and leaving her susceptible to the Tiger Flu. It also forces Kirilow to choose between her beloved and Auntie Radix, and when she hesitates it kills the last doubler. Finally, compelled care results in the Grist mourning fire, which attracts an enemy attack and destroys all but four Grist sisters. Like that of Mootoo's Tyler, Kirilow's complicated caregiving position embodies what her community resists: the often contradictory dimensions of care that create the "hybrid and often-fractured nature"

(Kim 255) of Kirilow's identity and, when ignored, cause the near destruction of the Grist village.

The Tiger Flu imagines an alternative to compelled caregiving through its portrayal of Kirilow's work at the Cordova Dancing School for Girls. Kirilow arrives at the school after being both rescued and kidnapped by dancing girls Myra and Tania. Although her arrival at the school is problematic, once she is there the school performs a model of care based on the authority and agency of the caregiver. Myra offers Kirilow the position of school physician, saying that "The Cordova Dancing School for Girls would like to invite you to live with us as our resident physician. You'll be paid. And you'll get a new family too, to replace the one you've lost" (159). Kirilow is invited rather than compelled to be the school's resident physician. Whether she can actually leave the school, considering that she is in a strange city suffering from a lethal Tiger Flu epidemic, is questionable, but the fact that the position is formally offered to her signals an increase in her agency as a caregiver. The position is also a paid one. While in the Grist village Kirilow was expected to care for Peristrophe and Auntie Radix out of duty to the sisterhood, at the Cordova School she is paid for her labour and can spend that income as she wishes. That the school practises a different model of caregiving is also suggested by Kirilow's new job title, Doctor Groundsel. The title of Doctor, which Lai capitalizes throughout the text, signals the respect given to Kirilow in her new caregiving position. The novel further highlights the authority of caregivers at the Dancing School by revealing that Madame Dearborn, leader of the school, was "the Grist Commune's last groom" (173), just like Kirilow was the Grist village's. Madame Dearborn's authority over the Dancing Girls suggests that the caregiver position, whether it is labelled groom or Doctor, is a valuable and revered one in the Cordova School. Its model of care, based on agency, remuneration, and respect, allows Kirilow to find Kora, a new starfish, and save the Grist village. In this sense, Kirilow's work as the school's Doctor suggests a path toward more ethical and productive modes of caregiving.

Productive Futurism

In addition to models of bodily purity and compelled care, at the start of *The Tiger Flu* the Grist sisterhood is entrenched in a discourse of reproductive futurism. In *No Future*, Edelman discusses how the fig-

ure of "the Child," whose "innocence solicits our defense," is highly political and in fact forms "the logic within which the political itself must be thought" (2). Reproductive futurism, he argues, positions the importance of the Child figure as unquestionable; in a debate in which the welfare of "the children" is concerned, there can be only one side. Reproductive futurism imposes "an ideological limit on political discourse" and privileges "heteronormativity by rendering un-thinkable . . . the possibility of a queer resistance to this organizing principle of communal relations" (2). When The Tiger Flu opens, the Grist sisters are deeply embedded in this rhetoric of reproductive futurism. Kirilow cannot say no to Auntie Radix's request for Peristrophe's heart because Grist teachings state that "the last/Doubler is gold" since her ability to "pop out young ones" is too valuable to lose (34). The emphasis that the Grist sisters place on reproduction is not surprising. They are cloned as slave labourers who have been "expelled" (20) and have "escaped" (21) from Saltwater City to survive as a small rural community. For the Grist sisters, giving birth is an act of resistance against the society that has produced them, limited their reproductive agency, and then abused and expelled them. When discussing his term "sinthomosexuality" (Edelman 33), a position that resists reproductive futurism, Edelman writes that sinthomosexuality resists reproduction "in the service of statist ideology" (53). Reproductive futurism is not based on an individual's choice to have a child but is a means of perpetuating a statist ideology whose future is embodied in the figurehead of the Child.

As Noël Sturgeon suggests, "how we reproduce — whether we are reproducing people, families, cultures, societies, and/or the planet — is politicized" (103) because "the politics of reproduction and the politics of production" (104) are often intertwined within gender and racial politics more broadly. In the framework of reproductive futurism, reproduction as childbearing is a mechanism for reproducing units of political and social organization that adhere to the dominant statist ideology. The Grist sisters have no stake in statist ideology. They are not part of a state but refugees from it. How the Grist sisters reproduce does not recreate the families, cultures, or societies desirable to the novel's mainstream states such as Saltwater City. The Grist sisters, like the Sonias in *Salt Fish Girl*, threaten "patriarchal order" (Calvo-Pascual 414) and the basic social organization of Saltwater City with their parthenogenic reproduction. They are thus expelled from the city and then attacked by batterkites. For the Grist sisters, birth is an act of defiance. Yet,

despite presenting Grist reproduction as a form of resistance, Lai's novel questions the lack of agency associated with reprocentrism and offers alternatives to visions of futurity based on the nuclear family.

At the end of Part 1 of The Tiger Flu, Kirilow discovers that Auntie Radix, now dead, was not in fact the last doubler. As batterkites ravage the village, Kirilow helps another Grist sister, Corydalis Ambigua, to give birth to a "litter" (102) of "sister puppies" (94) in a hidden school bus. Although the scene in which Kirilow, Corydalis, and Corydalis's lover Bombyx nurse the new sisters is one of hope and "family love" (95), Lai resists making her narrative reprocentric. After the birth, Kirilow does not dedicate herself to caring for Corydalis and her puppies but leaves the doubler and travels to Saltwater City in search of a new starfish. The birth does not become central to the narrative arc of the novel. Similarly, when Calyx, the Grist sister who accompanies Kirilow to Saltwater City, becomes pregnant by Kora's brother K2, her pregnancy is not heralded as a sign of future prosperity or possibility. Calyx's pregnancy suggests that the Grist sisters can reproduce sexually, but Kirilow does not see this revelation as a possible way forward for the Grist village. Such a strategy would not only appeal to reproductive futurism but also suggest the inevitability of a nuclear family as a basic social unit.

The Grist sisters resist relying on a neoliberal nuclear family model of reproduction to ensure their own survival. Rather than resorting to a heterosexual nuclear family structure, their queerness allows them to explore other ways of forming family and communal bonds. Lai troubles the essentialization of sexuality, the deeming of one form of sexuality more natural than another, in a conversation that Kirilow has with her mother double Glorybind. Kirilow describes how her mother once showed her two "post-storm slugs in a log slipping and sliming over one another" (47) in some form of a heterosexual act (insofar as slugs can be described as heterosexual). Kirilow says that her mother showed her the slugs to show her that sexual rather than parthenogenic reproduction "was natural" (47). As noted earlier, the appeal to nature in policing which sexual acts are acceptable has been used in both "the political project of staking rights claims for sexual minorities" (Bell 137) and the political project of excluding and rejecting the same minorities. Kirilow's repulsion at sexual reproduction is not only an unexpected inversion of the "naturalistic" discourse so often used to exclude queer sexuality but also a challenge to the heteronormative family nucleus. In

The Tiger Flu, Kirilow remembers her disgust at the slugs after the redheaded Salty describes her family to her: "I have a mother and a father And two brothers" (46). This description of a nuclear family does not inspire any positive emotion in Kirilow. Instead, she feels "[v]omit" pooling in her mouth (46). By questioning reproductive futurism, The Tiger Flu does not challenge reproduction point blank. Lai acknowledges Grist reproduction to be a key mechanism of the resistance of the Grist sisters. What the novel challenges is the kind of reproduction that leads to recreating the heteronormative nuclear family as a basic and essentialized unit of social organization.

In its closing chapter, The Tiger Flu opens up its definition of the family to include more-than-human beings, thereby suggesting that reproductive agency can be a positive and inclusive mechanism for environmental resistance. New-found starfish Grist sister Kora has become a starfish tree. Growing organs like fruit, she stands in a "Starfish Orchard" surrounded by "the young daughter doubles" of the new Grist sisterhood (328). The word young hints that reproduction is still important for the Grist sisters, but it is a qualified kind of reproductive futurism that rejects views of futurity as tied to the reproduction of the heteronormative nuclear family. There is no nuclear family in the New Grist Village. Kirilow and Kora do not elect the route taken by Calyx. If Calyx and K2 are a model of a nuclear family, featuring a heterosexual couple and their offspring, the Grist sisters model a queer extended family with complex kinship structures that include morethan-human beings such as the Kora tree. Significantly, the Kora tree stands in an orchard, a garden meant to produce fruit. In her work on gardens as sites for interspecies interaction and co-becoming, Sandilands argues that gardens "can be places where long-term relations of reciprocity are cultivated" and "complex, resilient communities" are created (Sandilands and Neimanis). By placing the Kora tree in an orchard and surrounding her with a new generation of Grist sisters, Lai creates a closing scene that demonstrates the kind of long-term reciprocity instrumental to what Donna Haraway calls "Sympoiesis" (58), a cobecoming with one's world. In her discussion of the role of nature in lesbian alternative environments, Nancy Unger writes that "Lesbians' ways of incorporating nonhuman nature into their temporary and permanent communities demonstrate how members of an oppressed minority created safe havens and spaces to be themselves" (173). This is a practice even more significant for lesbians of colour, who, as Lai

writes in *Slanting I, Imagining We*, "must deal not only with racism and sexism, but also homophobia" in their families, communities, and wider societies (114). By "incorporating nonhuman nature" (Unger 173), and building their community with the Kora tree, the Grist sisters create the New Grist Village, a haven in which they can thrive long term. That Kora can be both a tree and a Grist sister suggests a new, more inclusive understanding of community and family as going beyond the human.

This new definition of family in The Tiger Flu, which includes nonhuman beings, is based on a practice of responsible environmental care founded on shared memories and histories. The Kora tree highlights the importance of memory for the Grist sisters by saying that, "When you pluck your first replacement heart or liver from my branches, don't you dare scoff. You must remember my pain as I remember yours" (327). The Kora tree and the young sisters are physically linked by organ transfers, but memories, shared histories, vibrated out by the Kora tree, not DNA or organs, make them a family. Just as the Kora tree remembers the pain of childbirth felt by the doublers, so too must they remember her pain as they pick her organ fruit and so harvest her responsibly. By telling stories, the Kora tree shares plural lower-case-h histories with the Grist sisters. In "Familiarizing Grist Village: Why I Write Speculative Fiction," Lai herself draws on Sofia Samatar's notion, inspired by The Last Angel of History, of "capital-H history" as a virus of dominating ideology that destroys all "lowercase histories drawn from popular forms" such as oral storytelling (Samatar 176). Rather than creating dominant ideologies like the reproductive futurism popular in the Grist village at the start of the novel, the Kora tree shares multiple histories with the young Grist sisters and, like Samatar's Afrofuturism, "insists on lowercase histories as a means of unlocking other futures, which are always located, like a secret code, in sounds and images from the past" (Samatar 177).

For the Grist sisters, memory is always embodied. "It's a good thing that memory is not a part of the body that can be cut out, or no doubt [Auntie Radix] would ask for Peristrophe Halliana's memory too," says Kirilow at the opening of *The Tiger Flu* (18). The Grist sisterhood's embodied model of memory is formed in contrast to the disembodied "uploading" (254) and "downloading" (280) of consciousness practised by those in Saltwater City and The New Origins Archive. Whereas those in Saltwater City subscribe to the virus of History or a dominant ideology centred on Cartesian dualism and thus upload themselves

to Chang and Eng in order to "cure the mind of the body," the Grist sisters believe that the separation of mind and body is simply "death" (173). The Kora tree unsettles models of memory based on Cartesian dualism, the belief that mind and body can be separated, paradoxically by becoming more embodied, more in touch with the physical world as a result of her uploading into the Kora tree. Unlike those who upload to Chang and Eng and sever all ties with the Earth, when Kora uploads she becomes closer to the soil, closer to her physical environment, and therefore more embodied. She develops a new relationship with the Earth while keeping her old memories. Unlike the threatened memory that Kirilow identifies at the beginning of the novel, the memories on which the new queer extended Grist family is founded are shared rather than stolen. The Kora tree insists that the Grist sisters remember her pain when they pluck replacement hearts and livers from her branches, a very bodily activity. It is embodied memory that transcends ethnic, genealogical, or even species-based connection and allows the Grist sisters to form their new more-than-human community.

Conclusion

Acts of memory and environmental care are key for the Grist sisterhood's unity and survival, not bodily purity, care without agency, or the figurehead of the Child. Thus, Lai's narrative rejects discourses of purity and compelled care and imagines a version of futurity that allows for reproductive choice while also resisting the normativity and essentialization of heterosexual reproduction and the nuclear family. The New Grist Village's triumph in the face of a Tiger Flu pandemic alongside environmental destruction and exclusionary ideology suggests an abundance of speculative futures on which we can draw to inspire hope and care in our own historical moment. As the UN working paper quoted above suggests, women's livelihoods as caregivers, their bodies, and their reproductive health are disproportionately affected by the COVID-19 pandemic and its repercussions. As paid caregivers, women face added exposure to COVID-19 along with inequitable models of care that overrely on their care labour. Women's bodies, like the bodies in Lai's novel, and reproductive health have also suffered from a lack of care as a result of the pandemic. As the UN working paper suggests, "If COVID-19 lockdowns shut [sexual and reproductive health] . . . services for 6 months, in low and middle-income countries, 47 million

women are expected to lose regular access to modern contraceptives. In this same scenario, an additional 7 million unintended pregnancies are expected to occur" (5). Women's health, specifically women's reproductive health, is relegated to the background as funds are reallocated to other health-care needs while the neoliberal rhetoric that highlights the importance of childbearing in the service of statist ideology remains as prominent as ever.

In an interview on Fox News in March 2020, the lieutenant-governor of Texas, Dan Patrick, said that he believes older Americans should be "willing to take a chance on [their] survival, in exchange for keeping the America that all America loves for [their] children and grandchildren." Although his statements are extreme, they are telling manifestations of a neoliberal logic that subsumes reproduction, family, and care relations to the continued reproduction of the neoliberal state. Four months later, in August 2020, the fashion and entertainment magazine Cosmopolitan published an article titled "I Did My Own Abortion Because Texas Used COVID-19 as an Excuse to Shut Down Abortion Clinics" (Sussman). The article describes how a nineteen-year-old woman was able to "resolve her pregnancy with a self-managed abortion using abortion pills" (Sussman). Coming after the lieutenant-governor's comments that Americans should be willing to sacrifice their lives to ensure a bright future for their "children and grandchildren," the article reveals the danger of a rhetoric of reproduction that puts childbearing as a means for reproducing the neoliberal state above individual reproductive agency. Although the neoliberal model relies on heteronormative reproduction as a mechanism for maintaining and reproducing the neoliberal state, both the UN working paper and the Cosmopolitan article highlight how, when these reproductive models are put under pressure by the current public health crisis, they fail to provide women with the means for ensuring their reproductive health. By showing the Kora tree teaching young Grist sisters their history and encouraging them to remember, Lai suggests a model of family and reproduction that moves beyond this neoliberal logic and inspires environmental care through memory, connection to more-than-human beings, and plural lower-case-h histories rather than a singular neoliberal ideology. Only by learning to live with their environment and their more-than-human family can the Grist sisters, and perhaps we too, survive and thrive well into the "Gregorian Year: 2301" (Lai, Tiger Flu 235).

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