Alessandra Boller

"I'm a Patented New Fucking Life Form": Scientific Knowledge-Making Practices and Practices of Knowing in Larissa Lai's Ustopian Fiction

ABSTRACT This article explores how Larissa Lai's ustopian speculative fiction novels *The Tiger Flu* (2018) and *Salt Fish Girl* (2002) critique asymmetrical power relations within (Western) scientific knowledge-making practices. Via the dystopian principle of extrapolation, they project threatening tendencies in scientific practices into the future and thereby engender a reflection on the trajectories of neo-/biocolonialism and capitalist science. The utopian impulse in Lai's dystopian scenarios thus consists in their envisioning of collaborative knowing as alternative to Western scientific knowledge-making practices. A feminist new materialist reading of her novels highlights these narratives' vision of reimagining 'the human' as only one among many more-than-human agencies. By thus reframing knowledge as a material practice, the novels contemplate how we can know inclusively and ethically beyond powerful (Western) knowledge-making practices. Through examining how the novels contrast new epistemic communities with established ideas of knowledge and how they formulate new ways of thinking that contradict prevalent tendencies during the time of their publication, this article maintains that Lai's powerful narratives sow the seeds of more-than-human postcolonial epistemologies that can sprout urgently needed u(s)topian possibilities of re-worlding.

KEYWORDS biopiracy, epistemology, Larissa Lai, new materialism, speculative fiction

Boller, Alessandra. 2025. "'I'm a Patented New Fucking Life Form': Scientific Knowledge-Making Practices and Practices of Knowing in Larissa Lai's Ustopian Fiction." In *Science, Culture, and Postcolonial Narratives*, edited by Anton Kirchhofer and Karsten Levihn-Kutzler, 241–261. Anglophone Postcolonial Studies 2. Heidelberg: Heidelberg University Publishing.
DOI: https://doi.org/10.17885/heiup.1126.c23367

Introduction: Patenting "Life"

"I'm a patented new fucking life form" (Lai 2002, 158)—this short quotation from Larissa Lai's speculative fiction novel *Salt Fish Girl* entangles scientific knowledge practices with multiple ideological and capitalist facets. "I am" signals subjectivity and *Dasein,* which is traditionally considered an exclusively human capacity. "Patented," in contrast, refers to a product and, thus, to relations between science and capital. When the clone Evie labels herself a "patented new fucking life form," she hence simultaneously indicates neo- and biocolonialist scientific practices which build on and reinforce the anthropocentric distinction between agential subjects and exploitable bare lives.

Concepts such as neo- and biocolonialism, or biopiracy, target relations between science and knowledge and foreground how knowledge-making practices are embedded in ideological systems that render them neither neutral nor independent from discursive practices. Generally speaking, reflections on *what* we know and *how* we know have re-surfaced as urgent concerns during what is now commonly labelled the Anthropocene.[1] Due to climate change and the COVID-19 pandemic, for instance, 'Science,' frequently perceived in quotidian discourse as a homogenous concept with a capital S, has resurfaced as a prominent subject of public interest and debate. Knorr Cetina diagnoses contemporary Western societies as "knowledge societies," with expert processes and systems "epitomized by science but structured into the diverse areas of social life" (2003, 1–3). Underlining that science is only *one* among many mechanisms of knowledge production, albeit the "premier knowledge institution throughout the world" (1–3), she identifies the "lack of understanding of the contemporary machineries of knowing, of their depth and particularly of their diversity" as a "problem area" (2–3).

Via the dystopian principle of extrapolation, Lai's speculative fiction novels *The Tiger Flu* (2018) and *Salt Fish Girl* (2002) extrapolate asymmetrical relations within knowledge-making practices and project them into the

1 The term Anthropocene was suggested by Crutzen and Stoermer in the year 2000 to highlight that the current geological epoch is shaped by humankind's transformative, i.e., devastating, impact on the Earth and the atmosphere. While this term has become an established denominator of the need to change 'the human's' lifestyle and economy, it is also controversially discussed due to its inherent false universalism and its links to Western grand narratives (see Malm and Hornborg 2014; see Boller 2021 for a detailed discussion of feminist ustopian fiction's engagement with Anthropocene discourse and its binary reaction to crises).

future. On the one hand, they thus envision the dire consequences of an anthropocentric and Eurocentric understanding of scientific knowledge-making practices that styles the more-than-human world and all human lives discursively aligned with it as passive matter and, thus, an exploitable object of study. Lai's narratives thus throw into relief how such practices—when entangled in relations of domination, subjugation, and exploitation—can result in the objectification and ensuing colonization of everything categorized as 'nature' and 'Other.' Thereby, the novels engender a reflection on the trajectories of neo-/bio-colonialism and capitalist science in a dystopian world in which harmful relationships between knowledge formations, scientific practices, and social as well as environmental (in)justice shape the lives of human and more-than-human beings.

On the other hand, the critique of such practices of biotechnology and genetic engineering in *Salt Fish Girl* and of the ecomodernist, transhumanist belief in technology in *Tiger Flu* is paired with a more optimistic outlook. Lai imagines collaborative knowing as an alternative form of knowledge that refrains from hierarchical, asymmetrical power relations and exploitation. Her vision of knowing relates, in some respects, to new materialism, with which the novels share the impetus to reposition human agency as only one form among more-than-human agencies. In Barad's new materialist account, knowing and experimenting are "*discursive practices*" and thus "*material (re)configurations of the world*" that do not describe but, rather, produce the "subjects and objects of knowledge practices" (Barad 2007, 147–49; emphasis in original).

The novels hence invite a reading through a new materialist lens. Such an approach throws into relief how Lai's narratives imagine an alternative conception of knowing as a glimpse of hope and possibility despite the bleak scenarios. From this perspective, *Salt Fish Girl* and *The Tiger Flu* cannot only be read as dystopian cautionary tales but also as postcolonial ustopias. According to Margaret Atwood, the term ustopia foregrounds how utopia and dystopia always contain "a latent version of the other" (2011, 66) and are both "mappable locations and states of mind" (75).

The following contribution examines how Lai's novels dismantle established capitalist and colonialist thought structures in science as well as the idea that 'the human' can simply repair the damage done to the planet with effective technologies. It is interested in how the novels contrast collaborative onto-epistemological visions with established Western ideas of scientific knowledge. The main argument of this article is that the novels reframe knowledge as an intra-active, collaborative process of knowing and thereby offer a vision of how we can know inclusively and ethically beyond powerful (Western) knowledge-making practices.

Critique and Ustopian Vision: *Salt Fish Girl* and *The Tiger Flu*

Salt Fish Girl and *The Tiger Flu* are often discussed in the context of Asian-American and Asian-Canadian fiction. By drawing on Goellnicht and Ty's work in her reading of *The Tiger Flu*, Klimenko, for instance, highlights the "rich tradition" from which Asian-Canadian creative writers and activists "draw for both their creative works and their political activism" (2020, 164). These two aspects—creative output and activism—are often inseparably entwined and further entangled with Lai's scholarly work in critical and academic discussions of Lai's novels. Apart from this, scholarly contributions on *Salt Fish Girl* and *The Tiger Flu* frequently highlight their special impetus in regard to knowledge and ethnicity. In such readings, the discourses and thought traditions of the Enlightenment, as a Western movement, figure prominently.[2] Olsen, for instance, underlines how Lai's novels focus on race and ethnicity to interrogate 'the human' as "conceptualized by Enlightenment discourse" (2021, 145). She focuses on the "visuality of race" and on "colonialist and imperialist strategies of subjugation" (2021, 147) to reveal how the novel queerly reconstructs racialized Asian bodies "via its use of human–animal hybridity" (148), whereas Joo, for example, discusses how *Salt Fish Girl* reinterprets "the racialized Asian character" (2021, 47) when it traces capitalist exploitation (52). Reimer (2010, 4) particularly highlights the productively critical momentum of *Salt Fish Girl*, arguing that the narrative offers a "critique of the dominant Enlightenment discourses that emphasize disembodied rationality, progress, and certainty to the detriment of alternative epistemologies."

The notion of genre plays an essential role in such critiques and envisioned alternatives as well. When both novels imagine threatening future effects of (ideological) frameworks that racialize female Asian bodies, their various dimensions of speculation, imagination, and extrapolation tie in with their critique of the anthropocentric foundations of established approaches to knowledge. Following Foucault's work on power and knowledge, Wynter makes the case for regarding "the Renaissance humanists' epochal redescription of the human" (2003, 264) as already being in direct

2 Recent articles on Lai's two SF novels centre attention, for instance, on aspects such as fluidity in *Salt Fish Girl* (see Ma 2025), on health policies and planetary health commons in *The Tiger Flu* (Härting 2023), or on the latter novel's posthuman and postcolonial perspectives on science, including its play with techno-Orientalism (see Gatermann 2023). The alternatives to established binaries, which also inform science, and the forms of hybridity that Lai's novels imagine play a significant role in all of these scholarly contributions.

relation to colonialism and its asymmetrical distribution of power between colonizer and colonized. Vint, in turn, considers Western humanism as inadequate "to provide ethical and political frameworks sufficient to respond to growing economic and other inequality" (Vint 2020, 2). Building on Nalo Hopkinson's and Uppinder Mehan's observation that SF is commonly seen as a Western genre, Georgi places *The Salt Fish Girl* within the genre of cyberfiction and reads it in context with other works that seek to decentre the Western approach to science and technology in culture and literature (2011, 6–7). Georgi here explores the entanglement of science fiction, colonialism, and postcolonialism and pays particular attention to the ethnic body, which is marginalized and taken "for granted as 'spare parts'" in mainstream science fiction (2011, 7).

Lai's novels defy simple classifications; for instance, they can be regarded as science fiction, speculative feminism and fiction, or as cyberfiction. As speculative fiction that relies heavily on the dystopian principle of extrapolation, Lai's narratives are embedded in their particular historical moment and discourse. Written during a time when even public discourse talked about "The Biotech Century," as proclaimed by *Bloomberg Businessweek* in 1997, *Salt Fish Girl* critiques the inherent racism at the heart of biotechnology and the capitalist structures this scientific field became entangled with. *The Tiger Flu*, in turn, is set in a devastated world and deals with the repercussions of a pandemic. Although the 2018 novel today "feels almost prophetic" (Klimenko 2021, 161) with regard to the COVID-19 pandemic, it particularly critiques the workings of science that has lost sight of research ethics in a techno-scientific neoliberal world instead of warning of a pandemic in itself.

Both novels revolve around two women of colour—the mythical Nu Wa and the girl Miranda in *Salt Fish Girl*, Kora Ko and the clone Kirilow Groundsel in *The Tiger Flu*—whose chapters alternate, thus providing at least dual perspectives and inviting intersectional readings. *Salt Fish Girl* particularly resists Western reading habits because it resorts to circular and polyvocal myth. It thus does not follow the logic of history, which Lai regards as linear and monological, or a narrative structure that Lai terms patriarchal (Lai 2019). By centring the disenfranchised and othered in a future segregated and exploited, ruined world, they entangle different times and spaces, (knowledge) traditions, myths, and genres. Despite their dystopian scenarios, they do not issue simple warnings or give in to despair. *Salt Fish Girl* incorporates a ustopian aspect through collaborations that seize the results of scientific practice. *The Tiger Flu* puts even more emphasis on the production, circulation, and application of knowledge within different epistemic communities to eventually imagine embodied,

post-anthropocentric knowing through rhizomatic entanglement. Lai's novels thus challenge and restructure the hierarchical epistemic patterns that 'use' racialized bodies as objects and instruments within colonial and capitalist scientific structures. Through their intersectional lenses and dual perspectives, her novels juxtapose diverse forms of knowledge that are related to colonizing and decolonizing endeavours, as the following chapters will show.

Salt Fish Girl

Salt Fish Girl begins with Chinese goddess Nu Wa's creation of human beings in the Pre-Chang dynasty. After Nu Wa's first rebirth as a human being, the first of the two convoluted storylines that form the novel follows Nu Wa, who is part fish, part human, and a "shape shifter who travels through time and space" (Georgi 2011, 274); and her lover, the Salt Fish Girl in nineteenth-century China. The second storyline centres Miranda, who eventually turns out to be Nu Wa's "reincarnated future self" (Mohr 2017, 51), and the clone Evie in a dystopian, corporate-controlled future (2044–2062 CE) Canada. Both storylines critique scientific knowledge-making practices that claim to neutrally know the world but that are embedded in capitalist and colonialist structures in general and profit from biopiracy in particular. On the level of discourse, the entangled and non-linear storylines produce queer temporalities which function as ideological critique (see Freccero 2015, 19–22) and which align with the "multi-directional, multi-perspectival, multi-dimensional" spaces and times of "queer horizons of utopian and dystopian literatures" that Marks et al. identify (2022, 15). On its different levels, the novel hence highlights and disrupts prevailing anthropocentric and Eurocentric systems as well as the (neo-)colonialist and intersectional exploitation of female racialized 'Others' in many different times and places.

Capitalist Science, Biopiracy, and Anthropocentrism

Lai's novel envisions a dystopian form of science that constitutes a dehumanizing practice when it becomes entangled with systems of exploitation. *Salt Fish Girl* particularly foregrounds biopiracy and the ensuing creation of disenfranchised more-than-human clones. Lai projects worrying developments of late twentieth-century biotechnological discourse and practice to the mid-twenty-first century, when Miranda grows up in "Serendipity, a walled city on the west coast of North America" (2002, 11). This dystopian view of scientific knowledge-making practices is embodied

by the scientist Dr Flowers, who appears as a personification of powerful capitalist science.

As a child, Miranda suffers from a strong durian smell, a "foul odour that emanated from [her] pores" (Lai 2002, 20–21) and marks her, the only Asian girl in her class, as threefold 'Other.' While attempting to find a cure for her condition to render her an invisible member of the highly regulated society residing within the walls of the city, Miranda's father puts his daughter's wellbeing at risk. This risk is maximized when he contacts the famous Dr Flowers, who experiments on patients suffering from the contagious Dreaming Disease, a strange illness that infects both the more privileged, but closely monitored, citizens working for corporations such as Nextcorp and the outcasts living in the Unregulated Zone. Specific strong body odours are one of the multiple symptoms of this disease, which gives infected people "the memory structure of other animals" (103). It makes them remember, for instance, all famines ever caused by war (101) and incites a "compulsive drive to commit suicide by drowning" (100).

One day at school, Miranda's friend Ian leads her into a secret corridor to show her a group of people, "dark bodies in blue uniforms" (Lai 2002, 75). Upon her question who these women are, her friend Ian answers that "They're not women. They're janitors. […] Most of them illegal […]. And they're primary carriers of the Contagion" (76), meaning the Dreaming Disease. The janitors alarm Miranda because

> [t]he muscle and skin of their backs had been replaced with some kind of transparent silicone composite so that you could see their spines and behind them, their hearts pounding, their livers and kidneys swimming in oceans of blood and gristle. […] [The] organs had been shifted. (Lai 2002, 76–77)

Miranda learns that Dr Flowers "rearranges the organs of the afflicted" during dissections on TV (Lai 2002, 76), which turn the de-humanizing and de-subjectivizing practice into a media-event. His dissections of living beings are reminiscent of vivisection, a practice carried out during the Enlightenment era to seek knowledge of the working of animals. Descartes, for instance, viewed non-human life in mechanical terms, i.e., as beings incapable of conscious experience. As Vint argues, Western thought, whether scientific, political, or philosophical, has tended to claim to know 'the Other' and thereby contributed to discriminatory practices via devalorization and devaluing (2020, 1). When viewed through this particular lens, the more-than-human world, as well as marginalized human beings associated with it, appears as an external 'Other' that becomes an object to

be studied. The idea that the "Asian body is actively produced and racialized *through* a complex economic and political history" (Joo 2014, 53; emphasis in original) triggers further reflection on the racialization of bodies through scientific knowledge-making practices that perpetuate constructions of 'the Other' as mere objects within the framework of Eurocentric conceptions of 'the human.'

Lai's society is clearly imagined as material-semiotic, i.e., as a network of not only bodies but also discourses (Haraway 2016, 13). This term alludes to integral mechanisms that new materialism raises awareness of in its attempts to deconstruct human exceptionalist logic and to disconnect epistemologies from Western-centred hierarchy systems or linear narratives of progress and of human-only agency. In the short passage quoted above, Lai directs attention to the discriminatory treatment of marginalized groups—in this case, non-white women without a legal entitlement—in medical research that connects to an inadequate humanism which defines some people as sub-human, often based on ethnicity. The capitalist framework further increases the cruelty of scientific practice devoid of ethical reflection. Dr Flowers seeks knowledge through experiments carried out on desperate patients and on human beings who are not considered sufficiently human, which stresses the ideologically informed difference between test subjects and those parts of the population apparently considered worthy of protection.

As Georgi points out, Miranda's friend Ian functions "as the voice of the company doctrine, and by extension as that of the cultural mainstream" (2011, 281). Ian's explanation that the janitors are not women, illegal, and carriers of the disease shows how they are stripped of their humanity in a reciprocally dependent relationship: discourse defines them as illegal contagious beings and thus induces their transformation into test objects of medical science. Furthermore, the experiments solidify their status as "not women" and non-human, rendering their bodies exploitable matter that can be 'known' through experimentation as scientific practice. Flowers' experiments effect the denial of humanity and personhood but also of agency to the janitors, whose lives are defined as necessary sacrifices in the endeavour to know the world. This denial highlights Barad's above-mentioned argument (2007, 147–49) that the sciences, as discursive boundary-making practices, are also material (re)configurations that produce the subjects and objects of knowledge practices.

Miranda herself, already labelled a "perfect subject for [Dr Flowers'] current drug trials" (Lai 2002, 71), only escapes from the "gut-splitting, organ-rearranging surgery" (80) due to her father's discharge from the company Saturna and her family's ensuing forced move to the Unregulated

Zone beyond the borders of the walled city. Some years later, however, she becomes Flowers' apprentice—or accomplice—at his private clinic, where she first meets her lover-to-be Evie. The young woman shatters Miranda's worldview when she informs her about the biocolonialist biotechnological practices the corporations employ to increase their profit. Miranda does not want to believe that Evie is a clone and, thus, one of Dr Flowers' creations[3] produced to serve as cheap labour force for the shoe company Pallas. Miranda's reaction exemplifies a naïve and human exceptionalist thought pattern when she states that, with regard to cloning,

> "Animals and plants are allowed, but not humans."
> "I'm not human." [Evie responds]
> I recoiled slightly.
> "My genes are point zero three percent *Cyprinus carpio* — freshwater carp. I'm a patented new fucking life form." (Lai 2002, 158)

While Flowers' earlier research and experiments relied on othering and the exploitation of racialized lives, the production of clones further proves the biased system of knowledge-making practices of a decisively capitalist science that cannot be disentangled from the corporations' interest in the maximization of profits.

Evie and her 'sisters,' called the Sonia series or Sonias, are all-female human–fish clones modelled on Asian women. Their existence and treatment expose anthropocentric as well as colonialist thought structures and practices, as they epitomize objectivization and commodification within practices of biocolonialism, or rather biopiracy, because—as Evie explains—"Nextcorp bought out the Diverse Genome Project[4] [...]. It focused on the peoples of the so-called Third World, aboriginal peoples, and peoples in danger of extinction" (Lai 2002, 160). Lai's novel here builds on historical practices that treated racialized bodies as "*objects* of study of science and discovery in the construction of a Western imperialist worldview" (Joo 2014, 55; emphasis in original). As Georgi stresses, the production of female clones modelled on peoples of the Global South emphasizes the role of gender and ethnicity in commodification processes (2011, 186) that can be traced back to the beginnings of biocolonialism, when human beings and more-than-human materials were brought to Europe "for imperial

3 Originally created to become Flowers' daughter, Evie is sent to the factories when she rebels against her maker.

4 This term is "a thinly veiled reference to the Morrison Institute's Human Genome Diversity Project" (Joo 2014, 55).

interest, knowledge, and profit" (Ashcroft, Griffiths, and Tiffin 2013, 28–29). The contemporary practice of patenting "plants, animals and human genes as profitable sources" of diverse products has become a whole industry during the "biotechnological revolution" (Ashcroft, Griffiths, and Tiffin 2013, 28–29). Shiva draws a connection between discovery, colonization, and trade in the past and science, patenting, and capitalism today. The term biopiracy is now commonly used to criticize the patenting of peoples' genetic material. The practices of biopiracy commodify genes, resources, and even knowledge of peoples still considered "underdeveloped" (Ashcroft, Griffiths, and Tiffin 2013, 28–29). By stressing that the colonialist seizure of land was a "violent takeover [which] was rendered 'natural' by defining the colonized people as nature, thus denying them their humanity and freedom," Shiva (2004, 2–3) also convincingly draws parallels between early colonialism, the colonization—and devastation—of what has been labelled 'nature,' and of bodies through acts of biopiracy. The justification of the colonization of 'nature' is thus firmly rooted in Eurocentric human exceptionalism (see Olsen 2021, 148, 157).

The existence of the clones, therefore, is only rendered possible within a framework that excludes specific human groups from the anthropocentric privileges determined by the Global North. Knowledge is always co-produced by "natural and social orders," as Jasanoff stresses (2010, 2), and the biotechnological creation of the clones exemplifies Western human exceptionalist logic. Only produced to function as cheap labour force for the factories, the Sonias showcase the objectification of non-Western women and the more-than-human. Joo poignantly summarizes the reality produced by a culture that disregards the intrinsic value of all beings not included in 'the human': "Evie and her 'sisters' are illegal not because they are clones; they were cloned precisely to be illegal, so that their status as non-humans automatically and inherently excludes them from human rights" (2014, 54).[5] Their deliberate creation as racialized and animalized hybrid beings hence legitimizes their exploitation, as they are not eligible for human rights within predominantly anthropocentric ethics.

Lai's novel thus critiques the powerful influence of capitalism and anthropocentrism on scientific practices. Through her extrapolation of worrying developments during the biotechnological revolution, *Salt Fish Girl* repeatedly imagines excesses of unchecked, capitalist science, highlighting that, when embedded in colonialist and capitalist structures, the

5 See Reimer (2010) and Olsen (2021) for a discussion of the clones' hybridity in relation to Enlightenment epistemologies.

sciences cannot produce an objective knowledge that maps and models the material world. Nevertheless, the novel's ustopian impulse shows when the alleged objects of Dr Flowers' experiments rebel by engaging in knowing as collaborative practice, as the following section outlines.

Boarding the Enemy's Ship: From Biopiracy to Collaborative Agency

Despite biopiracy and an apparently deeply pessimistic dystopian outlook, *Salt Fish Girl* incorporates a ustopian impulse. The collaboration of alleged objects results in the re-appropriation of the outcomes of the scientific practices that exploited them. The Sonias take advantage of scientific experimentation with human / plant hybrids that implanted

> human genes into fruit as fertility therapy for women who could not conceive. And of course the pollen blew every which way and could not be contained [...] [T]he fruit of certain trees could make women pregnant without any need for insemination. It was great for [the clone community] because [the corporations] only manufacture women. (Lai 2002, 258)

The corporations' and Flowers' biopolitical attempts at controlling life hence backfire because agency is not an exclusively human attribute but must, rather, be understood as a relationship between agential matters and, thus, as a "matter of intra-acting" (Barad 2007, 178). When the Sonias reclaim their bodies and reproduce with the help of genetically engineered durian trees, they engage in a "long-term subversion" that also targets the capitalist production cycle (Georgi 2011, 294). The Sonias' acts of defiance are enabled by collaborative material practices, such as experimenting. Their ethics of knowing includes various forms of agency that together take advantage of Flowers' disregard of how the more-than-human world partakes in knowing instead of being passive matter to be shaped by culture and science.

From biopiracy and exploitation springs a collaboration of the land, transgenic female clones, the bioengineered Eastern durian trees, and Miranda / Nu Wa, who is pregnant with a child she conceived by eating a durian fruit. Dr Flowers' alleged objects powerfully demonstrate their agency through collaborative counteractions that engage in re-worlding beyond anthropocentric structures. Olsen delineates how the Dreaming Disease "breeds anxiety about nature" (2021, 148) in this context. The disease appears to be a weapon used by the land that is "fighting back" (Lai 2002, 244) when people contract it by walking barefoot and, thus, by coming into direct contact with the land they exploited and contaminated. As Olsen argues

with regard to *Salt Fish Girl*, recognizing that binaries and the colonization of nature are "built right into the architecture of our social structures calls into question the logics of discriminatory practices" and can thus probe "at the ethics of our relationships with other beings in the world" (2021, 158).

While Flowers is convinced that he has the right to engage in potentially dangerous practices and take control over living beings, he denies this right to the Sonias: "I'm a scientist, Evie. Whereas those Sonias […] not human […]" (Lai 2002, 256). Flowers eventually has most of the Sonias murdered and their durian tree destroyed when their rebellion against capitalist scientific exploitation threatens his work and profit as well as dominant discourses of human exceptionalism. Nevertheless, the multi-agential collaboration opens up visions of knowing and living that leave behind "the binary distinction human/non-human [that] has been foundational for European thought since the Enlightenment" (Braidotti 2019, 7). *Salt Fish Girl* hence imagines how different agencies and forms of knowing can profit from one another. This potentially subversive community symbolizes truly ecological and collaborative being and knowing informed by non-hierarchical difference and entanglement, which here implies connections, responses, and responsibilities that also involve "dispossessed others" (Barad 2007, 378).

This onto-epistemology makes the novel appear more ustopian than dystopian, when it produces reality by reconfiguring and differentially enacting the "determination of boundaries, properties and meanings" (Barad 2007, 8). The more-than-human sympoietic (i.e., collectively producing) community (Dempster 1998, v) formed across space, time, and species repositions 'the human' as one agent among others and engages in the continuous process of meaning-making beyond anthropocentric structures. While *Salt Fish Girl* hence envisions how an ethics of inclusive knowing through intra-action and collaboration gives rise to post-anthropocentric hope, Lai's more recent *The Tiger Flu* puts even more emphasis on different, both dystopian and utopian, forms and practices of knowledge.

The Tiger Flu

The Tiger Flu is set in the year 2145 and thus almost 100 years after Evie and Miranda escaped from Dr Flowers and Miranda gave birth to a girl, believing that "[e]verything will be all right […] until next time" (Lai 2002, 269). Three different calendars are coherently used in the novel: United Middle Kingdom cycles, Gregorian years, and Cascadian years. The Gregorian year 2145 corresponds to the Cascadian year 127 TAO (Time After Oil). This date engenders a fascinating thought experiment in an alternative

world setting, since this calendar signifies the exhaustion of oil resources by 2018, the year of the novel's publication. The world is not all right in this novel, which imagines a society suffering from the effects of ecological disasters, scarcity of food, extreme class divides, and the repercussions of the tiger flu pandemic. *The Tiger Flu* takes the ustopian concerns of *Salt Fish Girl* some steps further: while the novel critiques the neoliberal use of genetic engineering as well as the transhumanist disregard of the material world and its multiple agential matters, its utopian dimension consists in a decolonized and non-capitalist form of being and knowing.

The two protagonists of the novel reside in different spatial realms: Kora Ko and her family struggle to survive not only the lethal tiger flu but also the dire living conditions in Saltwater Flats, the first quarantine ring around Saltwater City, which is ruled by Isabel Chow's corporation HöST Light Industries. The second female protagonist, Kirilow Groundsel, is a groom, i.e., surgeon, in the clone community called Grist Village, which is attacked by HöST. The two storylines eventually merge when Kora and Kirilow meet at the Cordova Dancing School for Girls in Saltwater Flats. Despite loss, death, and destruction, the narrative develops surprising utopian ideas when Grist Village is eventually founded anew by Kora and Kirilow.

Grist Village and Saltwater Flats appear as almost diametrical oppositions regarding the epistemological, ecological, and ontological conceptualizations which shape these places and societies. They can thus be considered literal epistemic cultures, "amalgams of arrangements and mechanisms […] which, in a given field, *make up how we know what we know*. Epistemic cultures are cultures that create and warrant knowledge" (Knorr Cetina 2003, 1). While Knorr Cetina conceptualizes this term as an alternative to 'discipline,' the notion of epistemic cultures and their respective practised "texture of knowledge" (2–3) can also be applied to the communities in Lai's novel in a more literal sense. While Saltwater City is a techno-scientific knowledge society that has lost all hope for living in the material world, Grist Village and New Grist Village become ustopian time-spaces through their alternative forms of knowing. A discussion of their disparate views and practices of knowledge allows for insights into how *The Tiger Flu* engages with ontology and epistemology to envision a new ethics of knowing.

Technology and Transhumanism: Saltwater Flats

In the odd-numbered chapters that focus on Kora Ko, Saltwater Flats appears as a dystopian extrapolation of contemporary tendencies with regard to bioengineering and corporate power within the framework of binary thought structures of Anthropocene discourse. Life is threatened

by the tiger flu, a disease first caused by tiger wine made from the bones of the once-extinct Caspian tiger that was biotechnologically re-animated by Kora's ancestors. More dangerous for men than for women,[6] its fourth wave also hits Kora's brothers and her uncle Wai, as well as her already weakened mother Charlotte. Even people not afflicted by the flu suffer from the scarcity of food as well as from the collapse of the economy and of the currency. Simultaneously, "the ancient mainframe Chang rolls too fast across the sky. […] [He] appears much bigger than he should because his orbit is fast deteriorating" (Lai 2018, 12). Although Chang is a looming reminder of the threat of further collapse, all hope is pinned on technology, up to the point of splitting the mind from the body and uploading it to Chang.

The dystopian aspects of *The Tiger Flu* critique the unreflective belief in technology by imagining how limited access to knowledge and processes of knowledge production can maintain and even deepen social divisions and (environmental) injustice. Similar to Miranda's long-standing quasi-deliberate ignorance, Kora's trust in technology and Isabelle Chow, the CEO of HöST, prevails for a long time. Like other inhabitants of Saltwater Flats, Kora relies on "information scales […] plugged into the single-band halo that circles her head […]. As soon as she can afford it, she'll add rings to her halo, or even a full helmet, so she can get wiser quickly. She needs all the help she can get" (Lai 2018, 12). The scales make knowledge literally graspable and reduce the complexity of knowledge and knowledge acquisition. Learning and comprehending have been replaced by a passive reception of knowledge in exchange for money in this epistemic community. Thereby, the system excludes all people from knowledge who cannot afford to buy scales. Simultaneously, the capitalist structure of knowledge acquisition is controlled by competing elites with totalitarian aspirations and is, thus, prone to abuse. Furthermore, neither the knowledge-system nor the direct implantation of knowledge into the human brain can repair the damage that has already been done. Kora once runs "past the scale exchange where denizens routinely swap out shimmering flakes and tendrils of information in a desperate attempt to know and so fix the broken world" (Lai 2018, 40–41). Such attempts, and the beliefs they originate from, are symptomatic of an ecomodernist belief in technology

6 As Gatermann highlights, the virus "discriminates […] on the basis […] of sex—ultimately putting patriarchy to rest" (2023, 86). While I do not entirely agree with the idea that the virus topples patriarchy, as its structures partially persist in Saltwater City, Gatermann's reading of this gendered and political dimension of the virus and of the symbolic status of the self-proclaimed tiger men is highly insightful (see 85–89).

as a saving grace, which is paired with a disregard of other agencies in the ecosystem 'the human' is part of.

Saltwater Flats sets all hope on the transhumanist idea of uploading the mind to Chang to leave the body behind. This upload requires not only the Lïft—a technology invented by HöST, stolen by Marcus Traskin and later controlled by Kora's brother after he murdered Traskin—but also the substance N-Lite, which appears as a cynical comment on the Enlightenment that privileged human reason, as Calvo Pascual emphasizes (2021, 101). In contrast to critical posthumanism, transhumanism aims at perfecting and enhancing 'the human,' which is indirectly conceptualized as an elitist club of those who can afford the technology transhumanism relies on, such as AI or genetic engineering. In her reading of *The Tiger Flu*, Calvo Pascual argues that "transhumanist philosophy, engaged as it is in the enhancement of the human being through technological developments, [is] a process which carries with it social exclusion and exploitation of the minorities that lack access to those alleged improvements" (2021, 101). It hence intensifies human exceptionalist ideology (Calvo Pascual 2021, 102) that critics such as Braidotti, Haraway, or Vint criticize for its perpetuation of asymmetrical and colonial power relations and forms of discrimination.

Lïft visualizes biopiracy and colonialist paradigms even more than Dr Flowers' experiments in *Salt Fish Girl.* HöST initially uses clones manufactured by the company Jemini as involuntary trial subjects but eventually raids Grist Village to capture the descendants of clones who escaped many years ago. Chow sacrifices the so-captured clones in the attempt to finalize her project, thereby exploiting them as cheap 'material,' as non-human lives that can be used as means to a capitalist end. Acts of biopiracy are manifold here: the Grist sisters were originally created from one Asian woman's DNA to serve as a cheap labour force. During the Lïft, their minds are uploaded, but their bodies are transformed into fish to be literally consumed by the ignorant citizens of Saltwater Flats waiting for the upload. Lïft promises immortality and hence salvation from the flu but is only a "money machine" for Kora's brother K2 (Lai 2018, 229). In K2's hands, it leads to a mass murder of people whose minds will not lead the virtual life on Chang they were promised.

Due to its reliance on the colonization of lives considered "natural resources" and "raw material" (Calvo Pascual 2021, 108), Lïft is presented as a dystopian vision of a supposed technological solution. Furthermore, as transhumanist practice, it is grounded on limited access to knowledge and denial of participation in knowing as practice; on the disregard of co-productions; and on the capitalist exploitation of those classified as different. *The Tiger Flu* suggests that such "technofixes" (Haraway 2016, 3)

do not bring about the utopia they promise. In fact, "Western science, fraught with a colonial and imperialist ideological heritage and driven by neoliberal capitalist interests, is ill equipped, the novel suggests, to provide solutions to contemporary global crises […]," Gatermann argues (2023, 82). Instead of reproducing or simply criticizing such paradigms, Lai's novel builds on what Haraway calls the stark need to "think together anew across differences of historical position and of kinds of knowledge and expertise" (2016, 7). In this regard, the even-numbered chapters narrated by Kirilow Groundsel provide a stark contrast to Saltwater City's approach to being and knowing, as the next section outlines.

Towards Embedded and Embodied Knowing: Grist Village

Kirilow's narrative at first depicts Grist Village as an alternative, though still flawed—and, hence, ustopian— epistemic community before her storyline merges with Kora's. I argue that the novel eventually provides a utopian vision of a rhizomatic and sympoietic form of knowing dismantled of colonialist, capitalist, and individualistic structures when Kora and Kirilow found New Grist Village.

As an alternative epistemic culture, Grist Village stands in stark contrast to Saltwater City's transhumanist practices and exploitation of 'the Other.' The community relies on non-capitalist rules and structures as well as specific medical and scientific practices. Even though the Grist sisters were, just like the Sonias, originally produced within the framework of capitalist science, the re-appropriation of their lives and their practices of knowing allow for a first glimpse of ustopian reworlding through the recognition of more-than-human agencies and collaborative intra-actions. In contrast to the multispecies community in *Salt Fish Girl*, the all-female Grist community does not need bioengineered durian trees for reproduction since "Grandma Chang invented the partho pop" (Lai 2018, 20). Parthenogenesis secures the survival of the community as long as it has "doublers," sisters capable of reproduction, and "starfish," sisters who can regrow organs that the respective "grooms" transplant to the doublers' bodies. Medical training and knowledge as well as the cultivation and use of "forget-me-do," which "makes you feel pain as pleasure," secures the success of this complex medical procedure called "sexy suture" (21). This medical practice and approach to communal living and dying thus point to an alternative to the paradigm of individuality and growth inscribed in the DNA of Western societies through grand narratives.

Although, as Klimenko (2021) points out, Grist Village does not symbolize a utopian counter-space because the Grist sisters' model of care and

of communal living relies on exclusive impulses and purity discourse, the community opens up alternatives to capitalist and colonialist practices. Both their language and their religious belief allude to a self-understanding that differs from the anthropocentric privileging of the mind over the body. The Grist sisters do not introduce binaries in order to try to separate themselves from the ecological system they rely on for their survival and medical practice. Instead of attempting to separate culture from nature or from science,[7] they embed knowledge in quotidian practices which rely on intra-community and inter-generational intra-actions. Such practices tie in with Jasanoff's idea of co-production in a closed off community: "co-production is shorthand for the proposition that the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it" (2010, 2–3).

The Grist sisters' knowledge systems and preservation also contrast the reliance on technological storage devices in Saltwater Flats. Since they safeguard knowledge through oral transmission and embodied knowledge, they have to be "extra smart" (Lai 2018, 19). Such epistemological concerns are also linked to the knowledge of origins—while Wai claims that "[Kora] needs memory scales to understand the world that was" (29), Kora is left ignorant of her family's past or her relation to the Grist sisters until she is sent to the Cordova Dancing School. Kirilow, in turn, is familiar with her genealogy and eager to hold what "remains of the old world's knowledge in [her] raw brain" (20).

When Kora and Kirilow meet in the Cordova Dancing School, the Grist sisters' knowledge and community is almost lost. Due to the death of the community's presumably last doubler, when Kirilow refuses to transplant the starfish Peristrophe Halliana's—her lover's—heart, the Grist community already is on the brink of total destruction when an infected "Salty" enters the village to ask Kirilow for help (Lai 2018, 46). Peristrophe, the last, "overharvested" starfish (Klimenko 2021, 166), dies of the tiger flu shortly afterwards. HöST's ensuing attack on the village and murder of all but a few Grist sisters thus threatens to eradicate the whole cordoned-off (epistemic) community. Kirilow does not know anything about the world beyond the boundaries of the village, but her endeavour to find a new starfish is eventually successful when she meets Kora at the Cordova Dancing

7 In contrast to Western societies, the Grist sisters hence do not abide by the construct of what Latour has called the Great Divides between Nature and Society, Human and Non-human and Us Westerners and Them Others, which are the results of modernity's processes of simplifying purification, according to him. For a further critique of these binary divisions, see Latour (1993); Haraway (2008).

School. This school is a former Grist commune located at the margins of Saltwater Flats, and it figures as a space between Saltwater City and Grist Village and their respective knowledge systems. As one of the Cordova girls states, "'In order to survive in the world that is coming, we need to know our history. [...] Knowledge, my sisters, is the most important tool we have. [...] Technologies come and technologies go. So we must make use of everything we've got'" (Lai 2018, 86). Here, Kirilow does not only find a new starfish in Kora, who proves to be a relative of the Grist sisters, but also learns to make use of different forms of medical practice and to overcome purity discourses.

When Kora is lethally wounded towards the end of the narrative, her consciousness has to be uploaded to a Batterkite, an airship engineered by Isabelle Chow "from seal bladder and oyster material" (Lai 2018, 91). This embrace of a technological-natural vessel eventually enables the creation of a new Grist community, when Kora and Kirilow notice that the "tentacles of the kite doctored carefully and left to lie long enough atop fertile soil could become roots" (328), from which a tree grows. The last chapter of the novel is set in New Grist Village in the year 2301, or 269 TAO, and Kora has become the Kora Tree, from which organs can be plucked. Despite the split of Kora's mind from her dying human body, her consciousness is more embedded in the material world than before. She thus becomes an embodiment of the community's decolonization through reproductive agency and continuous intra-active knowing. The utopian idea offered in this last chapter "demonstrates the kind of long-term reciprocity instrumental to" sympoiesis (Klimenko 2021, 175). As an epistemic culture, New Grist Village is based on entanglement, becoming-with, and knowing as material practice and intra-action of differential agents. As Braidotti emphasizes, for "the subject to be materially embedded means to take distance from abstract universalism" (2019, 11–12), which has characterized anthropocentric thought and established knowledge practices since the time of Enlightenment. The rhizomatic community relies on the Kora Tree in many ways—not only does she provide organs, she also "vibrates language" (Lai 2018, 327) and teaches the young Grist sisters their history, reminding them of their entanglement: "You and me—we are alike. We fruit!" (326).

Conclusion

This article has discussed how, in the dystopian futures envisioned by Larissa Lai's *The Tiger Flu* and *Salt Fish Girl*, knowledge is not presented as an objective set of facts produced by 'Science' and acquired through passive reception, independent of worldviews, thought-structures, and a person's ontological status, class, and ethnicity. Lai's novels target anthropocentric knowledge-making practices indebted to biocolonialist and capitalist patterns of thought and action. Rendering visible the practical implications of the discursive construction of many human beings as 'Other' and of the more-than-human world as passive matter, the dystopian aspects of the narratives showcase how

> [k]nowledge and its material embodiments are at once products of social work and constitutive of forms of social life […]. Scientific knowledge [as well as technology] is not a transcendent mirror of reality. It both embeds and is embedded in social practices, identities, norms, conventions, discourses, instruments and institutions. (Jasanoff 2010, 2–3)

Despite their bleak settings, Lai's speculative fiction narratives neither give in to despair nor hail ecomodernist belief in technology. As Klimenko argues, *The Tiger Flu* particularly "speculates on what a more inclusive society can be" (2020, 164) after the dissolution of exploitative knowledge-making practices. As ustopian thought experiments, Lai's wildly creative novels envision an ethics of inclusive knowing to allow for reflections on new ways of knowing oneself and 'the Other' through non-anthropocentric epistemologies. When Lai foregrounds ideas of knowing as material practice and of knowledge as embedded and embodied, her stories point to possible re(al)locations of agency.

In this regard, the novels' rejection of the "mental habit of universalism is a way of acknowledging the partial nature of visions of the human that were produced by European culture in its hegemonic, imperial and Enlightenment-driven mode" (Braidotti 2019, 12). Their critique via the dystopian principle of extrapolation can thus be understood in relation to how "Global South epistemologies and philosophies of race and racism […] have long anticipated the ways to differentially imagine knowledge and perception as the foundation of planetary inheritance" (Goméz Barris, quoted in Alaimo 2020, 184).

Salt Fish Girl and, even more so, *The Tiger Flu* reveal hierarchical differences established by imperial thought that result in the literal consumption of 'the Other.' The juxtaposition of dystopian exploitative

knowledge-making practices and utopian collaborative knowing constitutes a potential form of activism against anthropocentric and biocolonialist exploitation in the alleged service of science. Lai's speculative fiction narratives thus sow the seeds of alternative epistemologies that can sprout urgently needed (utopian) forms of re-worlding by envisioning possibilities for an ethics of inclusive knowing as sympoietic practice.

ORCID®
Alessandra Boller https://orcid.org/0000-0002-5418-8235

Bibliography

Alaimo, Stacy. 2020. "New Materialism." In *After the Human: Culture, Theory and Criticism in the 21st Century*, edited by Sherryl Vint, 177–91. Cambridge: Cambridge University Press.

Ashcroft, Bill, Gareth Griffiths, and Helen Tiffin. 2013. *Postcolonial Studies: The Key Concepts*. 3rd ed. London: Routledge.

Atwood, Margaret. 2011. *In Other Worlds: SF and the Human Imagination*. Toronto: Signal.

Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.

Boller, Alessandra. 2021. "In Need of New Narratives: Feminist Ustopian Fiction Challenging the Anthropocene." In *The Postworld In-between Utopia and Dystopia: Intersectional, Feminist and Non-binary Approaches in 21st Century Speculative Literature and Culture*, edited by Katarzyna Ostalska and Tomasz Fisiak, 17–23. London: Routledge.

Braidotti, Rosi. 2019. *Posthuman Knowledge*. Cambridge: Polity.

Calvo Pascual, Mónica. 2021. "*The Tiger Flu:* A Critical Posthumanist Response to the Illusion of Transhumanism." *Hélice* 7 (1): 99–110.

Dempster, M. Beth L. 1998. "A Self-Organizing Systems Perspective on Planning for Sustainability." MA dissertation, University of Waterloo.

Freccero, Carla. 2015. The Queer Time of Lesbian Literature: History and Temporality. In *The Cambridge Companion to Lesbian Literature*, edited by Jodie Medd, 19-31. New York: Cambridge University Press.

Gatermann, Julia. 2023. "Bodies of Knowledge: Discredited Sciences and Technologies of Resistance in Larissa Lai's *The Tiger Flu*." *Science Fiction Studies* 50 (1): 81–102. https://doi.org/10.1353/sfs.2023.0004.

Georgi, Sonja. 2011. *Bodies and/as Technology: Counter-discourses on Ethnicity and Globalization in the Works of Alejandro Morales, Larissa Lai and Nalo Hopkinson*. Heidelberg: Winter.

Haraway, Donna Jeanne. 2008. *When Species Meet*. Minneapolis: University of Minnesota Press. 2008.

Haraway, Donna Jeanne. 2016. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press.

Härting, Heike. 2023. "Speculative Health Futures: Contemporary Canadian Health Policies and the Planetary Health Commons in Larissa Lai's *The Tiger Flu*." *Studies in Canadian Literature* 48 (1): 109–30.

Jasanoff, Sheila. 2010. *States of Knowledge: The Co-Production of Science and Social Order*. London: Routledge.

Joo, Hee-Jung Serenity. 2014. "Reproduction, Reincarnation, and Human Cloning: Literary and Racial Forms in Larissa Lai's *Salt Fish Girl*." *Critique: Studies in Contemporary Fiction* 55 (1): 46–59. https://doi.org/10.1080/00111619.2011.625999.

Klimenko, Marina. 2021. "Beyond 'The Last Doubler': Reproductive Futurism and the Politics of Care in Larissa Lai's *The Tiger Flu*." *Studies in Canadian Literature* 45 (2): 161–80. https://doi.org/10.7202/1080278ar.

Knorr Cetina, Karin. 2003. *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press.

Lai, Larissa. 2002. *Salt Fish Girl: A Novel*. Toronto: Thomas Allen Publishers.

Lai, Larissa. 2018. *The Tiger Flu*. Vancouver: Arsenal Pulp Press.

Lai, Larissa. 2019. "Conversation: Larissa Lai." Interview by Jiaqi Kang. *Sine Theta Magazine*, September 2, 2019. https://sinethetamag.medium.com/conversation-larissa-lai-73e0a19d7196.

Latour, Bruno. 1993. *We Have Never Been Modern*. Translated by Catherine Porter. Cambridge, MA: Harvard University Press.

Ma, Qianyi. 2025. "A Genealogy of Fish Women and Other Imagined Identities: 'The Mechanics of Fluids' in Larissa Lai's *Salt Fish Girl*." *Orbis Litterarum* 00: 1–17. https://doi.org/10.1111/oli.12480.

Malm, Andreas, and Alf Hornborg. 2014. "The Geology of Mankind? A Critique of the Anthropocene Narrative." *The Anthropocene Review* 1 (1): 62–69. https://doi.org/10.1177/2053019613516291.

Marks, Peter, Jennifer A. Wagner-Lawlor, and Fátima Vieira. 2022. "Introduction." In *The Palgrave Handbook of Utopian and Dystopian Literatures*, edited by Peter Marks, Jennifer A. Wagner-Lawlor, and Fátima Vieira, 1–21. Basingstoke: Palgrave Macmillan.

Mohr, Dunja M. 2017. "'When Species Meet': Beyond Posthuman Boundaries and Interspeciesism: Social Justice and Canadian Speculative Fiction." *Zeitschrift für Kanada-Studien* 37: 40–64.

Olsen, Cassandra Y. 2021. "Descent of the Human: Racialized Animality, Queer Intimacy, and Evolutionary Theory in Larissa Lai's *Salt Fish Girl*." *Studies in Canadian Literature* 46 (1): 145–65.

Reimer, Sharlee. 2010. "Troubling Origins: Cyborg Politics in Larissa Lai's *Salt Fish Girl*." *Atlantis* 35 (1): 4–14.

Shiva, Vandana. 2004. *Biopiracy: The Plunder of Nature and Knowledge*. Boston: South End Press.

Vint, Sherryl, ed. 2020. *After the Human: Culture, Theory and Criticism in the 21st Century*. Cambridge: Cambridge University Press.

Wynter, Sylvia. 2003. "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument." *CR: The New Centennial Review* 3 (3): 257–337.