

# Against Capitalism's Geoengineering:

## Medianatures in Larissa Lai's Salt Fish Girl

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Relationships of power are often formulated in binaries: Technology/Nature, Global North/South, Occident/Orient—these configurations are incessant. At the same time, the very expression of these binaries belie the actuality of their interrelationships. Postcolonial scholar Edward Said, whose work has provided a generative basis for a slew of cultural criticism, has shown that Europe's historical representations of Asia as the Orient are representations that, in effect, create European identity by positioning Europe as opposing "Oriental" people, culture, and government (3). Occident (Europe) and Orient (Europe's representation of Asia) are not two separate spheres; rather, they work on and through each other to construct identity through opposition, attempting to cover the real intertwining and overlapping histories of Asia and Europe. Said's work on global politics has resounding influences today: in a similar vein, what is today called the Global South, essentially synonymous with those nations that were once under the banner of "Orient," "Second/Third World," and "Underdeveloped," are the industrial manufacturers for the post-industrial Global North, and are thus inseparable from the Global North in the flow of capital. It is critical to take these binaries as concepts to be problematized, undermining them

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and thus illuminating that parceled opposites actually rely on each other; we all exist in relation to each other. Larissa Lai's *Salt Fish Girl*, I argue, is rife with opportunities to understand the way in which contemporary binaries can be confused and laid bare for their contradictions. Among these are the split between media technologies and nature, and the Global North and South.

In this paper, I outline the way *Salt Fish Girl* can be read as a challenge to proposed climate crisis "solutions" that rely primarily on more engineering technology, more capital, and more market rationality. These solutions, known as "geoengineering," view technology and hardware as a means to act on nature; among these are technologies for carbon capture and carbon removal (Foster 1). The conceptual recognition of geoengineering dates to 1977, "when the Italian physicist Cesare Marchetti proposed a scheme for capturing carbon dioxide emissions from electrical power plants and using pipes to sequester them in the ocean depths" (Foster 3). This example is the locus classicus of geoengineering; Marchetti's scheme involved heavy-handed involvement in the climate. Sociologist John Bellamy Foster also points to carbon capture, which aims to sequester carbon produced from electrical plants, as planetary geoengineering due to the immense scale such a project necessitates (5-6).

Parts of *Salt Fish Girl* are set in two spaces: Serendipity, a futuristic city owned by a corporation called Saturna, furnishes its citizens with a clean, middle-upper class life with suburbs and new consumer products. This city is walled-off from its other(ed) space, the Unregulated Zone outside it, a space that holds the unemployed, the lower-classes, and is overrun with a discordant mix of ecology, biotechnology, old media, and new architectural development from private corporations. These two spaces, I suggest, show the dynamic

interrelationship between media technologies and ecology, or more broadly, humans and Earth. Lai explores the implications of a capitalist logic that believes the solution to the climate crisis is geoengineering and a market in climate solutions, not regulations for corporations or an overturning of capitalism. Through the consequences of capitalism's logic of accumulation played out in *Salt Fish Girl*, Lai's text underscores that a capitalistic economic system does not afford a workable response to the climate crisis. This interpretation uses Jussi Parikka's formulation of "medianatures" as a conceptual tool to understand that hardware and ecology are entangled relationships: it is not so easy to detach "media" from "nature" and believe that one can asymmetrically act on the other without consequence (13).

Structurally, *Salt Fish Girl* alternates between two narratives that converge at the end. One narrative follows the mythical Chinese creation figure of Nu Wa through the *longue durée*, from ancient China to China's industrialization in the 1900s; the other follows Miranda Ching, who lives in a late-capitalist, hyper-technological North America (specifically British Columbia) in the mid-21<sup>st</sup> century, now entirely subject to corporate rule. This paper examines the cities within which Miranda lives in her side of the narrative. Serendipity is a city walled off from the Unregulated Zone just outside it; I contend that the spatial relationship between Serendipity and the Unregulated Zone reprises and explores extant dynamics between, for instance, the Global North and South, and more generally media and nature, which Lai's novel shows to be an untenable distinction as human intervention in "nature" through technology and hardware carries with it the baggage of unforeseen consequences on the climate, labor, and social justice.

Geoengineering as a response to the climate crisis is not self-evidently a capitalist phenomenon. Indeed, neither is the climate crisis: Parikka reminds us that so-called “real socialism,” the “real” way socialism manifested during the twentieth century, practiced by nations such as the rapidly-industrializing USSR and China, also had a significant impact on the climate (ix). At the same time, however, Parikka also recognizes that the capitalist mode of production, necessitating a logic of accumulation, inevitably infringes upon planetary natural resources. Parikka quotes the following passage from *The Communist Manifesto*:

The bourgeoisie, during its rule of scarcely one hundred years, has created more massive and more colossal productive forces than have all preceding generations together.

Subjection of Nature’s forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground— what earlier century had even a presentiment that such productive forces slumbered in the lap of social labor? (Marx and Engels 65-66).

Capitalism, an economic system that relies on an accumulative rationale, is, in this view, tied to the history of climate change as the rapid industrialization that has radically raised greenhouse gas emissions is inseparable from profit motives that necessitate it.

An anti-capitalist critique of geoengineering, such as the one I suggest Lai presents in *Salt Fish Girl*, is then premised on an understanding of geoengineering not as a break from capitalist

logic but as a continuation of it. Indigenous climate justice scholar Kyle Powys Whyte suggests that geoengineering, as an ecologically disruptive force, is heavily associated with colonialism and forms of oppression that have already once dispossessed Indigenous lands and people (297-298). From this perspective, geoengineering is another means through which post-industrial power can, like it always has, view the ecological world as a sphere separate from ourselves. Land and resources are nothing more than that which can be manipulated for profitable ends, and geoengineering is the means through which it can be done. Firms (and other institutions that rely on the logic of capitalism) that preach geoengineering, ethical consumerism, and a kind of “green capitalism” perpetuate the very ideology that first brought the climate crisis about. There are two challenges to the efficacy of geoengineering under post-industrial capitalism that Salt Fish Girl elucidates. The first rejects geoengineering simply because manipulating ecological systems are likely to have more unforeseen consequences than straightforward solutions. In Lai’s text, media technology’s ecological manipulation has wrought disorder onto the Unregulated Zone and the land itself begins to reciprocate, conceptually affirming Parikka’s medianatures. The text’s second response to geoengineering under capitalism is as follows: even if firms’ use of geoengineering did slow climate change, or stop it altogether, the fundamental means through which this is to be done—that is, through a logic of accumulation, market rationality, dispossession of resources—will exacerbate existing socioeconomic inequities and perhaps create more. Salt Fish Girl presents this challenge in terms of exploitative labor practices and migration of workers from the increasingly unaffordable Serendipity to the Unregulated Zone.

The first response to geoengineering argues that geoengineering dangerously and

disingenuously posits what may be an impossible solution. Indeed, in the first instance, why should “improvements” in hardware be able to outstrip the resources used for those very advances? If environmental degradation is needed to build geoengineering technologies (Clark and York 391), how could any technology be efficient enough to surmount the conditions of its making? Further, the ecological system is complex, and an attempt to engineer the planet may have unforeseen consequences (Foster 7). In general, the idea that geoengineering technologies can act on nature but not vice-versa contradicts a view of the Earth as a holistic system. Instead, ecology might equally be usefully construed as that which mediates hardware. In *Salt Fish Girl*, a recurring plot device is a rumored disease that spreads through feet, coming from the ground itself: “That’s how it spreads. It comes up through the soil. Not everywhere but in certain areas, close to where they’ve grown GE [Genetically Engineered] potatoes. It comes up through the skin of your feet and gets into your bloodstream” (164). The origins of this disease are from genetically engineered foods. Lai distinctly ties human folly in technological manipulation of the ecological world to its consequences; however, what is especially provocative is the way in which this consequence is effected. There is “danger of attack from the land itself” (244) as the land quite literally fights back. The following sequence is thus presented: firms, seeking a biotechnological fix, manipulate the ecological world; the ecological world reacts in unforeseen ways, and responds in a manner intimate and destructive to humans. Hence, Lai’s polemic against geoengineering can be read as follows: if humans, and thus geoengineering technology, are not separate from nature but a part of it, then any manipulation of the natural world must necessarily effect a response, which may be perilous for human life.

The process of viral transfer through diffusion reveals the interconnection between human and ecological. In the text, there are both intimations of the intertwined ecological and human world, and an assertion that the waste and ecological destruction imparted onto the world are primarily from capitalist forces. A recurring motif throughout the text is the aged architecture in the Unregulated Zone interacting with ecology: “we just bumped along a crumbling highway. Grass and weed poked out of the cracks” (37); “[downtown] was well over a hundred years old and reeked of mildew and rot” (81); “there were cracks in the concrete facade. In those cracks, mildew grew thickly and threaded away from the central tributaries in fine rivulets, giving the overall impression of a wall covered in green-black ferns” (98). These meticulous elaborations of crumbling buildings overrun by the enduring stench and sight of ecology epitomize, in a very literal way, the insuppressible tendency for ecology to establish its agency in the world. But these interactions are only obvious in the Unregulated Zone, not in Serendipity. Serendipity is walled off, with new media technology: Miranda visits a house, which on the inside is “an electronic jungle. The walls, the ceilings, even parts of the floor were covered in screens and consoles” (64). For Miranda’s own family, Serendipity allows for the comfort of living in a “middle-class, suburban sort of way” (95). But the waste and destruction in the Unregulated Zone is a direct consequence of what makes this middle-upper class lifestyle in Serendipity possible. If Serendipity has new media technologies, it is only because old technology and hardware are relegated to the Unregulated Zone and left to be disposed: “ancient” televisions enjoy popularity (84), used car parts clutter Miranda’s family garden (187), and an “ancient printing press” makes an appearance as a form of resistance as it prints anti-capitalist

flyers (188). This dynamic relationship between Serendipity and the Unregulated Zone draws a parallel to the process by which older consumer items make their way from the Global North to the Global South, resulting in the Global South holding a significant amount of electronic waste and old media technologies (Devine 382). Serendipity attempts to wall itself off, presenting itself as a sterile environment of sleek new media technologies—not dissimilar to the image of technological firms in Silicon Valley. This character must be repudiated as the very same corporate power that runs Serendipity relies on the Unregulated Zone for physical space to hide old commercial buildings and waste. This, alongside the unrestrained ecology that makes itself known in the Unregulated Zone, underscores the fact that ecology and technology cannot be meaningfully separated. In this view, Lai's response can be applied to firms in the Global North seeking to use geoengineering as a way out of the climate crisis. The response is a grim reminder that the Global North is deeply tied to the Global South, and that the consequences of ecological manipulation are not so easily understood—indeed, medianatures suggests that ecology may respond capriciously.

It is significant, however, that the visible effects of ecological manipulation are entirely manifest in the Unregulated Zone. This lays bare another challenge to capitalism in the realm of geoengineering: capitalism's adverse effects, in this case ecological ones, are felt first by the very ones who are exploited by capital. In Andreas Malm and Alf Hornborg's critique of "the Anthropocene narrative"—the portrayal of humanity as a distinct species having an awesome power over Earth's geological system (62)—they suggest that the delineation of humans as a species that collectively induced climate change obfuscates the fact that different individuals and

groups do not contribute equally to and are not equally affected by the climate crisis (65-66); for instance, some people live in areas more susceptible to natural disasters without the financial means to relocate. Certainly, the climate crisis may be a planet-wide phenomenon, but the planet has a heterogeneity of geographies, which have attendant ecological systems. This thus leads to the second challenge to geoengineering: even if geoengineering provides a solution, will it be a narrow one? For whom would such solutions work, and who would they exclude? Further, if geoengineering did provide a global solution, but does so under capitalism, how would this address existing inequities? Indeed, would such a solution simply provide fodder for widening gaps of wealth disparity?

Returning to Lai's text as a literary exploration of these very questions proves to be generative. What is first crucial is that Miranda's life, in the year 2062, is not one deeply affected by a climate crisis. This thematic lack is immediately evident in a contemporary reading of *Salt Fish Girl*, when the climate crisis looms over our collective futures. But it is precisely this lack that allows the text to be crucial for understanding the ramifications of capitalism and geoengineering's pairing. If Miranda's world is taken to be one in which capitalism did already solve the climate crisis through geoengineering technology, then Lai's second challenge to capitalism and geoengineering is evident: inequities will still be unresolved and in fact exacerbated. This response can be seen most closely in population movement from Serendipity to the Unregulated Zone: "After the stock market crisis [...], the big corporations, Saturna and Nextcorp among them, laid off workers and cut pensions [...]. Workers flooded out of the corporate compounds [such as Serendipity] and into the Unregulated Zone" (85). Latent in this

passage is a typical critique of capitalism: its instability gives it a tendency to widen economic gaps as the owners of capital, during times of crisis, continuously accumulate wealth and ensure their survival while over-exploiting workers. Lai's text, published in 2002, might have been written in the milieu of a world reeling from the 1999 tech bubble crash. Yet, today, a world in which large corporations seem too big to fail is still only too familiar. Lai thus suggests that income inequities and labor exploitation can only intensify as capitalism advances. Furthermore, Lai illustrates another critical point when Serendipity becomes spatially smaller after this diegetic stock market crisis: "the wall had been blasted away in huge chunks. [...] A double layer of chain-link fence and razor wire separated the part of Serendipity that was still under corporate control from the part that wasn't any longer" (191). Serendipity's collapse is the logical conclusion of the coalescence of wealth under what is presumably its corporate ownership; if the income gap continues to widen, argues Lai, fewer and fewer can afford a life walled off. Returning to geoengineering under capitalism, this is another challenge illustrated in *Salt Fish Girl*. Even if the conditions of late-stage capitalism allowed for a geoengineered solution to the climate crisis, would it be sustainable socially? Lai's text suggests that it is not: labor exploitation still runs rampant in Miranda's world. And what if the solution provided to the climate crisis is a scarce one, only available to the rich? Like Saturna, the corporation behind Serendipity, will our rich not wall themselves off further?

Recognizing these contentions, Lai roughly outlines a means to resist capitalism. In *Salt Fish Girl*, resistance to ecological manipulation is explored under latent themes of race, gender, and land. It is uncovered that Nextcorp, another large late-capitalist corporation, has been

cloning workers. These clones escape, working together in the Unregulated Zone in an attempt to resist corporate power. The genetic source of the clones are “peoples of the so-called Third World, Aboriginal peoples, and people in danger of extinction. [...] Brown eyes and black hair, every single one” (160). As well, these clones are women, and they have been “building a free society of their own kind from the ground up” (256), cultivating genetically modified agriculture, first created by corporations, that could “make women pregnant without any need for insemination” (258). The resistance, then, comes in the form of marginalized people who appropriate the very hardware used to modify ecology, rekindling a connection with land to build a society that does not rely on the logic of accumulation under capitalism. For Lai, the very people who are marginalized and dominated under the logic of oppression are key in understanding how that oppression may be overturned. In terms of geoengineering and capitalism, Kyle Powys Whyte argues that the discourse around geoengineering must be contextualized and framed by histories of imperial and colonial oppression (298). Indeed, Whyte suggests it is hard to speak of Indigenous consent or dissent to geoengineering when the discourse of geoengineering has been so far isolated from its colonial history yet relies precisely on that capitalistic history to exclude Indigenous voices (301-302). That is, Whyte traces a genealogy between historical colonialism and the current exclusion of Indigeneity from geoengineering discourses; the two have in common a reliance on capitalism’s exploitative relationship with land. Unlike Whyte, who makes clear that there is no Indigenous totality with an affirmation or rejection of geoengineering under capitalism (rather, the ability to even speak of affirmation/rejection must be preceded by access to geoengineering discourses, which is as yet a

criteria unfulfilled), Lai's text, I suggest, rejects geoengineering under capitalism and argues that once geoengineering is framed by its history, the next step for resistance is to reconnect with the land, not media and nature but medianatures, a step that must be first taken by those who feel the effects of the climate crisis most strongly.

Parikka suggests that “[m]edianatures is a useful concept only when it scales down to the specific instances of material-discursive events” (14). Lai and Parikka thus pose a shift in mentality along similar lines: in positing ways out of the climate crisis, we should hold in mind the deep interconnection between technology and ecology. The promise of geoengineering under capitalism is that a market rationality or logic of accumulation can be reconfigured to marketize environmental concerns, cohesively working an ecological future into capitalism. Lai presents two responses: first, the promises of geoengineering are suspect. Ecological manipulation may have consequences unforeseen, and the very notion that technology and hardware can modify ecology without ecology sequentially enacting revenge is premised on the false idea that the technological is segmented and separate from the ecological world. This illusion is most easily found in the Global North, which, like Serendipity, seeks to wall itself off from the rest of the world. Ecology is deeply intertwined with technology (sometimes in a very literal sense, as mildew grows in crumbling commercial buildings), and any technological “fix” may hold concomitant unforeseen consequences. Lai's second response is a critique of capitalism itself: even if geoengineering under capitalism were to succeed, how would this post-climate crisis future account for the inequities wrought by the conditions of late-stage capitalism needed to bring about that world in the first place? Indeed, Lai argues that it cannot—inequities only

become more prominent.

Lai's proposed path of resistance to geoengineering under capitalism underscores the necessity of being led by those whom capitalism had dispossessed in the first place; this is buttressed by Whyte's argument that geoengineering discourses lack Indigenous presence. Lai argues for being guided by those in the margins, as well as for an acknowledgment of medianatures. Resistance, through Lai's text, is a collective one "from the ground up" (256), overturning old economic systems and replacing them with new ones that rely on close connections to the land and mutual support. Thus, *Salt Fish Girl* presents a case against the prominence of geoengineering as a proposed solution to the climate crisis, insofar as this proposed solution exists under capitalism. Lai's text underscores the unworkability of a future still reliant on market-based solutions, and proposes strategies of resistance that completely reconfigure social, ecological, technological, and economic relationships. Through medianatures, a recognition that hardware interfaces with ecology is key to the future of the climate.

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