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Jamaican River Waters: Collapsing Time and the Politics of Rural Life-Making

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ABSTRACT: The Black River, which runs through the parish of St. Elizabeth, Jamaica, is an ecological, agricultural and aquaculture resource and a source of drinking water. Research among residents and workers highlights the ways in which river waters become layered with meanings and uses in the postcolonial setting of former plantation economies. Time collapses within the landscape as river geographies house, and are reconfigured by, sediments of colonial European settlement, plantation slavery, recent industrial histories, and continuities of rural subsistence. River social geographies are shaped by historical shifts in governance and economics under racio-colonial capitalist systems that grew out of plantation slavery. How have the logics of colonisation that created sugar plantations shaped physical and social geographies surrounding river water in contemporary agricultural districts? In what ways have contemporary global capitalist industries like rum production affected Jamaican river waters and how have they operated on top of pre-existing riverine social geographies? This research explores the negotiation of rural Jamaican life-making norms – including subsistence fishing and farming practices – in relation to river waters, as understood by private citizens and other political actors. It examines the multiple registers that river water occupies in rural Jamaican life and the complex water politics that grows out of collapsing time within the post-plantation rural landscape of Jamaica.

KEYWORDS: Caribbean, postcolonial temporality, plantation protocapitalism, river water, political ecology, Jamaica

INTRODUCTION

Physical geographers describe river system geomorphology as a specialised practice of 'reading the landscape', which can sound uncannily familiar to an ethnographer. Water is an active substance that adjusts to, moves within, and reshapes its environment. Because of water's relational dynamism, there is a social texture to the interactive assemblages that mutually constitute riverine landscapes, ecosystems and communities. River geomorphologists read each river's unique history, dynamic behavior and evolution. Readings of river landscapes are contextualised spatially and temporally and carry 'imprints' and 'memories' of influences from the past. These imprints and memories can then be used to help predict how future anthropogenic and other environmental influences will pattern future changes to a river's features and related habitat (Fryirs and Brierley, 2012: 7). Including river waters within contemporary postcolonial anthropological analysis in the Caribbean adds a deep and convoluting sense of time to the power dynamics that shape rural life in the footprint of colonial sugar plantations. Based on field research, including participant observation and open-ended interviews conducted between 2016 and 2019, in this essay I argue that for the Black River in St. Elizabeth, Jamaica, riverine water memory draws attention to the experience of collapsed time while shaping and adding dimension to histories of colonial settlement, plantation systems, the making of contemporary rural life, and water politics (Beckford, 1976; Brathwaite, 1971; Shepherd, 2009; Smith, 1965; Mintz, 1986). Additionally, by examining Jamaican water politics in relation to rural life-making strategies, I argue that it is possible to better understand the ways that the racio-colonial capitalism that grew out of plantation slavery

continues to operate within the blurred public/private spheres of contemporary neoliberal governance (Bonilla, 2020). In thinking about water as a carrier of collapsed postcolonial time, it is possible to better understand how racio-colonial capitalism in Jamaica shapes contemporary water politics, the environment, and the way that Jamaican people use water. I suggest that the disobedient qualities of river water create a continuity with the past for rural Jamaicans by producing marginal spaces, comparable to slavery-era plantation provision ground garden plots, that enable rural people to engage in life-making livelihoods outside of the formal economy. Jamaican river waters, however, cannot be treated as existing outside of systems of exploitation, as property law and postcolonial regulations regarding river water use and environmental protection reproduce racio-economic inequalities that are rooted in the protocapitalist colonial past.

RACIO-COLONIAL CAPITALISM AND THE PRODUCTION OF CARIBBEAN RIVER WATERS

My attention was first drawn to the subject of Jamaican water politics in January of 2016 when several days of labour protests erupted, during which rum factory workers, cane cutters and farmers blocked major roadways in St. Elizabeth with tree trunks and other debris. The protests were initiated when processing of the sugarcane crop was delayed; this delay was due to the shutting down of rum production in reaction to legal proceedings brought against the factory because of river pollution and fish kills at a downriver aquaculture facility. This moment of civil unrest highlighted for me the complex social world created by the Black River; it shaped a water politics that continues, at least in part, to grow out of plantation operations that originated in the colonial period. Racio-colonial capitalist practices shape contemporary inequalities, including differential access to stable livelihoods and unequal influence on local environmental concerns such as the ecological protection of river water; these practices create significant disadvantages for the rural poor in Jamaica. Rural residents frequently use rivers for recreation and supplementary sources of nutrition and income as they patch together basic resources. Strang's work has highlighted the connections between access to water and political enfranchisement, as patterns of water use reflect social relationships that are shaped by their political and economic context (Strang, 2009, 2020). In the Jamaican case, a particular racio-colonial capitalist logic uses and regulates the bodies and lives of the descendants of enslaved plantation labourers; it is this same logic which shapes water politics through processes which unevenly monitor, define and regulate Black River water. 'Racio-colonial capitalism' is invoked here – following Yarimar Bonilla's work – as a term that encapsulates theorisations of colonialism in the Americas that situate colonial systems (including the system of race-based plantation slavery) as the seedbed for capitalism (Bonilla, 2020). This approach does not emphasise a break between the colonial era and the present in spaces like the Caribbean; instead it underscores the continuities and adaptations of the operations of power that continue to be justified through the racialisation of populations and the maintenance of market logic into the present. The racio-colonial underpinnings of capitalism in Jamaica are inescapable because, through plantation slavery, they initiated the very existence of Black people in the region. These racial and market logics are built into the foundations of the system in the Americas that turned nature into land, humans into labour, and, I would add, water into a resource (Wynter, 1971).

An effort has been underway to turn the river into a source of 'modern water' that can be regulated by irrigation boards and terraformed by corporations for more efficient sugarcane production in the service of the rum industry on the old estates; in some ways, this parallels the ways enslaved Africans were placed in the service of 'modernity' in the Caribbean (Linton, 2010). It was regimentation and efficiency that defined plantation life and the lives of the enslaved people who fueled the colonial-era sugar industry (Mintz, 1986). The characteristics of both humans and waters which resist regulation and regimentation worked together to make space for the perseverance of "culture on the edges" (Trouillot, 2006). The idea of culture on the edges indexes opportunities created by enslaved Africans to engage in life making activities and to resist efforts to restrict and regularise people and – I am also suggesting here

– water; the opportunities they created used the kind of folk law and folk uses of water that can never be fully governed (Trouillot, 2006; Wynter, 1971). Black River water is and has been an accomplice in the making of rural life on the edges.

Racio-colonial capitalism likewise shapes the ecology of the Black River through compounded histories of terraforming, the introduction of invasive species like carp and crawfish, the use of agricultural fertilisers and pesticides, and the disposal of mining waste. The reshaping of the river's ecology must also be contextualised within the wider capitalist processes that have precipitated global climate change. River waters are, and have historically been, a crucial component of various protocapitalist and capitalist economic activities, including the transport of products, as a production input, and as a receptacle for disposal; because of this, the Black River holds in its current form both the memory of its plantation past and the imprints of its capitalist present. The flow of rivers, their memories, and their contents do not proceed continuously in a sequence that runs from the past to the present; they frequently reflect a process of accumulation, collapse and reconfiguration.

POSTCOLONIAL WATERS AND THE NON-LINEARITY OF TIME

Black River water – named for the dark colour of the river's peat bed – floods, feeds, irrigates and is terraformed in ways that tell a muddy story of collapsed time in postcolonial late capitalism. By examining the smudged strata of water politics and the everyday uses, regulatory mechanisms, and human entanglements surrounding the river, the quotidian experience that results from existence within temporal collapse becomes more evident. Eduardo Kohn has used "form" to explain regularities in both semiotics and "beyond human" registers that "exhibit constraints on possibility that result in a certain pattern" (Kohn, 2013: 158). Using the Amazonian rubber boom as an example, he describes the linked patterns of rubber tree growth and unidirectional river flows as, "united in an economic system that exploited them thanks to the formal similarities they share"; he also associates the nested patterns created by flowing water with the development of specific power-laden human social relations (ibid: 162). He writes that, "being inside form is effortless" because of its inherent causal logic and emergent properties (ibid: 163). This theoretical frame could also be used to support a perceived linearity in the progression of human settlement along the Black River. Focusing on formal causality, however, ignores much of the complexity of Jamaican water politics and the alternate temporalities currently being theorised in the postcolonial Caribbean context.

A formal, semiotic approach to the 'beyond human', when placed in conversation with contemporary political ecology and theorisations of modern water process, also minimises the problematic implications of assuming "regularity" when it comes to water, conflicts over usage, struggles over access, and the harm caused by effortlessly flowing pollutants (Linton, 2010). In other words, for what and whom is operating within the form "effortless"? In what ways does the idea of form conceal the temporalities and histories of rivers and water? Such concealments include struggles against form, or "feral proliferations" stemming from the modular simplifications of the plantation, as when pollutants and invasive species destructively "go with the flow" or when terraforming projects disrupt the flow or cause flooding for those who lack ownership over the landscapes they inhabit (Tsing et al., 2019). How do we grapple with the ways river water is defined and utilised within systems of social relations, in this case social relations established through racio-colonial capitalist projects in the Caribbean? Turning to the specific social relations created by the riverine memory and flow of the Black River, I will now explore these questions further.

The town of Black River was one of the first to ever appear on maps of Jamaica dating back to 1685. The Black River itself runs down from the mountainous karst topography of Cockpit Country through fertile red clay valleys, and down to the sea. There it forms a natural protected harbour that was quickly identified for its value to the Spaniards who first colonised the island during the 15th century on top of the existing Taino population. The river provided both fresh water and transportation, first for logwood

and later for sugar cane, rum and molasses; these extractive resources came down the river to the port, where they were loaded onto ships engaged in the Atlantic trade. Because of the manifold resources provided by the river, it is no wonder that the adjacent land was prized by the British. Having appropriated the island from Spain, they rewarded the key accomplices in the takeover with large river-inclusive estates which ran first on the labour of enslaved Africans and later on that of indentured Asians and Europeans. The rum production facility that is currently located in the Nassau Valley on the Black River began as the 6000-acre Barton Estate, a reward from Charles II to Sir Frances Dickinson. From the moment Jamaica became a British colony in 1655, this estate defined the pattern of land use and water access in the area. Historically, sugar estates were held by the wealthiest and most prominent members of Caribbean society because of the large landholdings, extensive enslaved labour pool, and long time to profitability that were a prerequisite of earnings from sugarcane cropping. Wealth and land was required in order to initiate a successful sugar operation; as a result, during the sugar market's peak the will of the sugar estates came to dominate local politics at the expense of other industries such as ranching (Shepherd, 2009).

Figure 1. The Black River running through the grounds of the rum factory.



Source: Photo by Anne M. Galvin (2018).

Land was a crucial component of the system of plantation slavery, fundamental to wealth, social hierarchy and the control of enslaved and indentured people; because of this, a focus on land use has dominated studies of the colonial era and its legacies, while the significance of water sources and water politics has been reduced to an ancillary part of plantation landscapes. Recent work on the archaeology of slavery in the Caribbean has turned its attention to the hierarchies of water access that were created by plantation infrastructures and racial/economic status differences, rather than by material limitations on local water supplies (Hauser et al., 2017). Patterns of postcolonial land use continue to provide a blueprint for rural residence and land ownership in the countryside; however, more consideration should be given to how the current relationship of rural communities with river water has been shaped by survival needs, life-making, and the histories of slavery and the organisation of plantations along waterways. Rural Jamaican experiences with river water continue to be shaped by sugar plantations, even as the contemporary Jamaican sugar industry shrinks and export profitability continues to sharply decline. This continued influence becomes particularly apparent during the rainy season when dunder, a liquid by-product of rum distillation, washes into waterways, damaging the downriver ecosystem and the livelihoods of those dependent on the river.

The riverine memory of waters running through colonial era plantations extends into the present; for this reason, water is a compelling substance through which to think about the collapsing of time, histories, natural forms, and registers of power within the postcolonial context of Jamaica. Cultural anthropology of the Caribbean has recently turned its attention to the ways that time is experienced in spaces where the past, present and future exist synchronously because of the traumas of exceptional violence (Thomas, 2016). Time in these instances is not linear or cyclical; it is simultaneous, constituting a reorientation of the idea of time away from its usual framework as a marker of progress and of development into modernity (ibid: 179). After independence and up until the present, Jamaican struggles to become 'modern' through the adoption of technological approaches to national economic growth and through privatisation and regulation of public works provide ample evidence that progress does not follow a linear path. 'Development', as defined by modernisation, does not always correspond to progress; the inconsistency of time-as-progress becomes clear when the foibles of regulation, citizenship and governance are observed in poorer urban and rural communities whose members frequently resort to the old strategies of making life on the edges, sometimes out of view and at other times out of reach of the Jamaican state (Galvin, 2012, 2020). In the context of the Black River and Jamaican water politics, characteristic inconsistency transfers onto water regulation and selective enforcement of environmental policy that follows patterns of governance and social control in ambiguously defined spaces developed under plantation slavery.

TEMPORAL COLLAPSE AND RACIO-COLONIAL CAPITALISM

The water flowing through the Black River embodies temporal collapse. The river contains synchronous histories of life-making; it descends first from Cockpit Country, the home of Maroon communities first established as areas of African and Afro-Caribbean resistance to enslavement; it then passes through a hydroelectric plant that uses a dam system to channel water through the plant and back into the river; from there the river flows down into the old Barton sugar estate, which is now a major internationally owned rum operation and tourist attraction. Downriver there is the abandoned Reynolds bauxite factory (of Reynold's Wrap fame) which closed down in the 1970s, and from there the Black River flows past a coconut seed agricultural research facility and through an internationally owned aquaculture business which cultivates tilapia and basa for local consumption and export. Along this path, the river also creates tourism projects on the river proper and on its tributaries; these include a small bubbling spring and a large waterfall attraction. Finally, before reaching the sea at the once-important port town of Black River, it flows through a mangrove forest that includes the habitat of the American crocodile, a safari tourism experience, and a rehabilitation center.

The Black River is constituted by temporal simultaneity, a collapsing of histories that the project of modernity has attempted to construct as a linear progression separable into past, present and future. The never fully regulable nature of water endows the river with characteristics that make it an accomplice to the survival of poorer rural Jamaicans who continue to find the gaps and edges in which to make life in the footprint of the plantation. At the same time, the river is also entangled with repressive systems of racio-colonial capitalist production that are rooted in colonisation and slavery. The continuity of this repression is most obviously visible in the current structures of employment and water/land use, as defined by sugarcane plantations, rum factories, and the subdivision of old estate lands. Racio-colonial capitalism also significantly shapes the consequences of modernist projects that fix the river's water to make it measurable and fit for regulation through the interventions of irrigation commissions, water commissions, and the National Environment and Planning Agency (NEPA).

It is important here to note that while the plantation grounds of the colonial Barton Estate are materially the same grounds as the contemporary rum factory, the social and economic roles of the respective plantations are decidedly different. The institution of plantation slavery formed an economic and a social system, both of which were rooted in racial classification and in two different disparate legal statuses, one for white planters and one for enslaved Africans. The Barton Estate as a slave plantation was in many ways a micro-society structured around economic production; it used slavery as a form of labour which it enforced through rigid status hierarchies and brutality (Knight, 2011). The estate regulated enslaved people's access to resources, including the 'provision ground garden plots' that will, in the following section, become significant to the discussion of making rural life on the edges. Though the contemporary rum estate exists on the same property, makes the same product, and uses the same fields and some of the same structures as the colonial-era estate, in its current form it is a global corporate capitalist enterprise that employs wage workers. After emancipation, the social regulatory role played by the estate during plantation slavery shifted to being a function of colonial government; this function is now structured by the independent and democratic Jamaican state, which currently controls public access to land and water through mechanisms of regulation and property law.

REGULATION, TERRAFORMING AND LIFE-MAKING ON THE BLACK RIVER

The river links what are referred to as the Black River Upper and Lower Morass. The Lower Morass is the largest freshwater wetland in Jamaica and is significant for its biodiversity; it has been designated a Ramsar site under the Convention on Wetlands of International Importance. At a point along its pathway through the Lower Morass, the river sinks below the limestone and red clay; reappearing, it provides irrigation for large and small, legal and illicit agricultural operations, including ganja farming; it also constitutes a water source for commercial aquaculture projects and provides spaces to play, wash and fish. The social and economic relationships created by interactions between humans, wildlife and water in an era of climate change make the issues of adequate water supply and flooding primary concerns during the dry and rainy seasons. These concerns elicit a government response in the form of environmental regulations to curb illegal drawing of water from the river for irrigation, restrictions of construction on wetlands and sinkholes which inhibits drainage and contributes to pollution by agricultural runoff and human waste (the pollutants raising the water's nitrate and phosphate levels and contributing to fish kills and other ecological damage).

While conducting the research for this project, I attended a series of Community Development Committee (CDC) meetings for districts whose geographical boundaries included the Black River. CDCs are a legal entity made up of members of community-based organisations (CBOs). CDCs were created under the *Local Governance Act, 2016*, to encourage a participatory governance framework under the umbrella of the national Social Development Commission. These summits were an excellent resource for learning about the various community pressures and priorities along the river. They attracted a range of participants, including police officers, pastors, fishing people, teachers, business people and other local

stakeholders. The meetings were generally held in an empty school classroom after lessons had finished for the day, participants sitting in student desks surrounded by chalk boards and bright posters about reading challenges and hygiene tips. During meetings, the primary water-oriented concerns that would consistently come up involved issues of flooding and blocked drainage; discussions frequently led to complaints about ineffective monitoring by NEPA. CDC members would describe buildings that had been constructed on wetlands and on known drainage sinkholes, illegally or by permit; they said that warnings were issued but that, from their standpoint, there was never substantial follow-up or enforcement on environmental infractions.

Once the formal meeting agenda had been completed, one of the session organisers would introduce me to the group and offer me a few minutes to ask specific questions about the Black River and its environment. At this point, I usually steered the discussions towards issues surrounding river-based livelihoods and industrial water politics. A popular concern that frequently led to rich discussion was the shrinking native freshwater shrimp population, which had been crowded out by the accidental introduction of an aggressive invasive crawfish that, according to local accounts, had washed into the waterway from an ornamental aquaculture business upriver. One of these conversations wound a path through the problem of invasive species, illegal agricultural activity, use of fertilisers, chemical pesticides and weed killers inside the morass, and the need to clean the river of clogging debris, including choking rafts of water hyacinth; finally, the pastor in attendance asked, "What would have happened to the community if not for the morass?" He then reiterated an assertion that I heard repeatedly: that selling shrimp from the river allowed residents to send their children to school. He continued on to say, "no government can provide jobs as people live off of the river", his comment suggesting that the government did not have the capacity to support citizen livelihoods to the extent they were being supported by the river. His statement also revealed an ongoing association between the provision of extensive public sector employment and previous Democratic Socialist modes of governance; it was acknowledged that jobs had been linked to strategies used by Members of Parliament whereby party-provided employment opportunities were conditional on party affiliation (Stephens and Stephens, 2017). He continued to talk about how the morass was a resource and the main source of employment for his area; he finishing by saying that his neighbours, "live, eat, and sleep, the morass". The pastor's words provided a representation of rural livelihood that helps capture what it means to make life in the gaps – with river water as an accomplice – in spaces where government at times does not reach. Where more formal wage work was often inaccessible, common ways that rural people in St. Elizabeth cobbled together a livelihood included periodic temporary employment, growing fruits and vegetables, small-scale raising of livestock for consumption and sale, running homebased cookshops and beauty parlors, and fishing/shrimping from the river.

WATER, FISH, LAND AND RURAL LIFE IN THE SUGAR PLANTATION'S FOOTPRINT

During preharvest in the summertime, a wall of sugarcane taller than a person rises at the side of the road that cuts through the old Barton Estate; the estate currently houses Jamaica's oldest working rum company, now owned by the Italian-based multinational, Gruppo Campari. Floyd, a tall slim rasta who often wears his long hair wrapped in a floral patterned cloth, guided us along the machete-hacked passageway through the wall of cane to show us the river. Floyd lives in a one-room zinc-paneled cabin next to his older brother's house; both are on a property that also holds his mother's house, a much larger, well-maintained, peach-coloured stucco structure. The yard is lively with the sound of running standpipe water, it smells of laundry soap or cooking fire smoke, and is noisy with the bleating of a nearby tethered goat; all these are characteristic of rural Jamaican domestic life. The living arrangement, with several households occupying houses on the same plot of land, is indicative of patterns of residence on 'family land'. In her research on post-emancipation peasant land use, Jean Besson proposed rural land use in St. Elizabeth as an example of, "the dynamic interplay between folk law and official legal codes",

suggesting that folk law plays an active role in shaping state law (Besson, 1999: 33). Enslaved people and their descendants "assimilated and overturned" colonial laws regarding land inheritance based on primogeniture; they used customary law, whereby land inheritance was expanded beyond male heirs to include all children regardless of gender or 'legitimacy' of birth status. They transformed purchased legal freeholds into customary 'family land' passed down through oral tradition, symbolically indigenising themselves in their relationship to the landscape (Besson, 1999: 33-37; Thomas, 2016). Jamaican state law was shaped by customary law, with squatting on abandoned land being codified as a means of property acquisition under specific circumstances. This land acquisition strategy is still practiced in the present, despite state efforts to 'regularise' ownership arrangements to ensure the payment of property taxes.

Floyd lives a life that reflects a long-standing rural Jamaican survival tradition that is rooted in relationships with the land and – as I am arguing – with water. Floyd was introduced to me as a knowledgeable contact person for my research by a woman who had spent many years living in housing on the estate and whose husband was a sugar engineer. She had known Floyd since he was a child. He had grown up on land that blends into the old Barton Estate and he travelled freely throughout the area on foot, including over the estate grounds which now included a sugar plantation and a rum factory and were a tourist attraction; as he passed, he would call greetings to friends and relatives. He had learned to swim and fish in the river across the street from his mother's yard during the 1970s, but that stretch of river has since been terraformed by the sugar industry to provide irrigation for the cane fields. Now in his late 40s, Floyd laughed as he pointed to the entry way to the field, telling me that the estate always "plants in" the path but that people from the neighbourhood clear out the passageway so they can access the river by crossing through the thick cane onto the estate land. The first time I met Floyd, I asked him about fishing in the river. He responded by pulling a plastic sandwich bag out of his pocket; it was filled with small grey fish that were about six inches long. He explained that they were not native fish and that when he was younger the fish in the river were much larger and more plentiful. He nostalgically described a time in the past when he would put a pot of rice on the stove, cross the road to the river with his fishing rod, and come home just as the rice had finished cooking, carrying a full bucket of fish to eat for dinner.

Caribbean social scientists have documented the ways plantation-based slavery shaped patterns of land use, access, and continuing social inequalities (Brathwaite, 1971; Shepherd, 2009; Smith, 1965). From the first moment of British colonisation, the estate reserved the best, flattest and richest farm land for the cane crop. Realising that provisioning the enslaved labourers represented a loss of pure profit, plantation owners encouraged them to grow their own food by planting "food forests" near their living quarters and carving out "provision grounds" from the surrounding, less easily cultivable hillsides (Barker, 1989; Besson, 1999). McKittrick, building on Sylvia Wynter's work, notably emphasises plantation land, and specifically the garden plots of provision grounds allotted to enslaved people, as locations in which Black people became rooted in the Americas and, in a sense, indigenised, but whose lives were never fully determined by the violence of colonisation (McKittrick, 2013; Wynter, 1971). Currently, under racio-colonial capitalist systems that continue to structure unequal patterns of land ownership, these gardens serve as an inexpensive source of food that supplements households that may have limited access to formal employment and which, therefore, find spaces to make life outside of the limitations created by the cash economy.

The present livelihood pattern in St. Elizabeth also reflects the use of food forests and provision grounds as a supplemental food source and generator of small income in an environment where rural poverty is widespread to the point where, in 2015, it was estimated to include more than 28% of the rural population (STATIN, 2018). While agriculture is no longer a top contributor to the Gross Domestic Product, it is economically significant for the island because of the income and food security it provides for marginally employed rural populations (Inter-American Development Bank, 2017). Floyd's mother's yard, in 2019, featured a food forest with coconut, banana and other fruit trees framing the property, and a medicinal herb garden growing in front of Floyd's home. Further bearing witness to this continuity,

Floyd was often hard to get hold of on days I asked for help arranging interviews because he and his brother would leave home in the early morning hours, before the sun got too hot for agricultural labour, and would travel a significant distance to reach their ganja farm in the hills adjacent to the rum estate. The farmers with crops in the alluvial fan of the Black River benefitted from the irrigation provided by the river and its small tributaries; they had to also constantly adjust to the seasons, including when their farmland became a swamp and its saturation contributed to a toxic runoff from the fertiliser- and pesticide-laden soil. This pattern of colonial-era plantation-land monopolisation continues to shape access to cultivable farming plots and the livelihoods of those living in the plantation's vicinity; it shapes the relationship of rural poor people to the rivers which provide supplemental sources of food and income.

The conceptualisation of collapsed time rooted in historical and contemporary racio-colonial capitalist trauma that I am attempting to think through using river water can be productively placed in conversation with the decolonial work of Indigenous scholars seeking to rehabilitate kinship ties between the human and the 'more than human'. Davis and Todd assert that, by marking 1610 as the beginning of the Anthropocene era on the basis of the accelerated movement of species, pathogens and people across continents, the descendants of enslaved African people and Indigenous groups who faced genocide and displacement in the Americas can be shown to have already confronted the apocalypse. A later periodisation of the Anthropocene only serves to emphasise the arrival of the "reverberations of that seismic shockwave into nations who introduced colonial, capitalist processes across the globe in the last millennium in the first place", and to erase the "proto-capitalist logics" of violence, extraction, dispossession and terraforming that were inherent in colonisation and climate change (Davis and Todd, 2017: 764). Rural Jamaican life continues to be shaped by the logics of racio-colonial capitalism that were first developed on plantations. These logics are marked by their inconsistent systems of governance and regulation – systems which strategically allow for 'in-between' spaces of relative independence and life-making while at the same time serving as spaces of wealth and labour extraction from poorer rural residents. These arrangements exhibit characteristics of what Walsh has theorised, in relation to the privatisation of water in Mexico, as primitive accumulation; he describes an "ongoing process of articulation with and extraction from social formations and domains not characterized as capitalist" (Walsh, 2015: 4). The simultaneity of past, present and future, brought about by the apocalyptic experience of European colonisation and enslavement, is evident in rural Jamaica even beyond episodic experiences of exceptional violence; this is because current rural residents have persisted in making life on the very same post-apocalyptic landscapes where colonial-era plantations continue to dominate geography, river ecology and social relations (McKittrick, 2013; Thomas, 2016; Wynter, 1971).

This persistence is itself evidence of the simultaneity of past and present; as Trouillot points out, Caribbean life was made "on the edges" and in gaps within colonial regimes that allowed for the humanity of enslaved Africans to persevere and create a new social world within a European economic enterprise fueled by discipline and death" (Trouillot, 2006). It is important to pay attention to the ways that the gaps in oppressive organising systems that are associated with racio-colonial capitalism serve or control groups of people in different ways depending on their social position, and how they allow for the extraction of wealth in the gaps of formal (proto)capitalist systems of trade and labour. The example of the provision ground gardens demonstrates that by allowing for spaces of relative independence, plantation owners were able to cut their operating costs and some responsibility for providing for the nutritional needs of their enslaved labourers. Provision grounds at the same time provided space for a certain freedom for enslaved people where they could work their own gardens, socialise together and, at times, sell their surplus. Contemporary food forests similarly alleviate pressure to provide adequate resources and employment on the part of the Jamaican state, while supplementing household nutrition and creating small opportunities for rural residents to engage in petty trade. I am arguing here that Jamaican rivers likewise provide a way for poor rural Jamaicans to make life on the edges while also removing from the Jamaican state some responsibility for providing adequate employment and subsistence in rural

constituencies. At the same time, a postcolonial water politics that is constituted by the inconsistent regulation and enforcement of environmental standards regarding water quality and river ecosystems, serves as an exclusionary force that disproportionately affects poor rural Jamaicans (Hauser et al., 2017). They are held accountable for damage to ecosystems caused by illicit farming and irrigation, while at the same time having little control over the consequences of ecological damage caused by river-adjacent industries; these industries are able to circumvent waterway regulations while directly affecting the critical livelihoods that the river provides.

MODERN WATER PROCESSES AND RACIO-COLONIAL CAPITALIST INEQUALITY

Because modern water processes take place within the same dynamics as racio-colonial capitalism, there are ways in which modern water itself is part of a racio-capitalist system in the Caribbean (Linton, 2010). When we look at plantation slavery as the 'incubator' for capitalism, there are evident parallels with contemporary strategies for encouraging entrepreneurship and personal responsibility. Contemporary neoliberal strategies minimise the role of the state and employers in providing for the well-being of citizens and workers; there is a demonstrable continuity with the past here that also applies to water politics. The provision grounds might be looked at as an early instance of the utilisation of 'entrepreneurship' as a cost-saving measure for protocapitalist plantation owners, one that shows continuity with contemporary appeals to personal responsibility that benefit capitalists. Concomitant with the regulation and measurement of modern water is a disproportionate enforcement that favours political actors – international corporations, wealthy ex-patriots, and those with political connections – over members of rural communities who continue to make life in the gaps.

With the widespread attention to land monopolisation in the Caribbean, the way plantations also shape local access to river water has been less emphasised. River water is a state-controlled resource with use allocated by permit. Cane plantations monopolise river water and are known polluters of waterways. In Jamaica, of the 10% of agricultural crops that are irrigated, cane plantations represent 70% of irrigated fields (FAO, 2015). The geomorphic memory held by the Black River reflects this monopoly. As Floyd directed us through the cane field towards the winding river, he pointed to the spaces where the flow of the river had been reconfigured to better suit the needs of the cane crop; the estate had brought in an engineer from Guyana for this purpose. Floyd emphasised this as a transition point in community use, telling us that the dams and pumps that had been installed both destroyed the community's swimming area and damaged the breeding habitat for fish. These fish served as a source of protein for river-adjacent households; they also were a source of income for the young men in the area, who would fill buckets with fish and then ride into town with them propped on their bicycles to sell at street-side markets. According to Floyd and other local men I spoke to from his age group, since the re-engineering of the river the fish no longer had the slow-moving pools for the fry to hatch and mature, nor were maturing fish able to migrate from where they hatched into the larger body of the river where they could grow to full size, as they were not able to pass over the dams or through the pulverising pumps.

Through the permit process of the Water Resources Authority and the National Irrigation Commission Limited, with oversight from the National Environment and Planning Agency – without input from residents – the estate has been able to reconfigure the contours of the river to better suit the irrigation of their sugarcane crop. Floyd emphasised to me that because the engineer had been from Guyana, his expertise in the sugar industry did not put him in a position to fully understand the specific characteristics of Jamaica and Jamaican rivers; instead, he caused damage to the ecosystem and to the livelihoods of residents who relied on the estate's natural resources to supplement their cash income. Floyd pointed to the road, telling us that it now always floods in heavy rain as it never did in the past. When I asked if anyone had approached the estate about the change in supply of fish, he replied that no one listens to the "small people". He told me that environmental monitoring by agencies like NEPA cannot be trusted because the monitoring projects are commissioned by powerful people to create an illusion of

compliance that provides cover for the environmental damage they have caused. This perception was echoed by other area residents and participants within local CDCs, bringing attention to the ways in which racio-colonial capitalist logics helped constitute water politics. Those with resources and influence in commercial and governmental roles are able to work within systems of water and environmental regulation to improve their own profits or to collect permit fees from the public; poor rural people, meanwhile, must surreptitiously work around those same regulations and must often accept the ecological consequences of decisions that are made by the government and corporate entities without their input. Decisions by powerful political actors can have dramatic repercussions for people dependent on river-based livelihoods, as was the case for Floyd and his neighbours.

NEPA's use of the language of progress through development and regulation also reflects the ways collapsed time is held by water and shapes water politics. Discussions about environmentally sustainable policies and education included several examples that I was able to observe during a live-streamed event that celebrated National Environmental Awareness Week (June 2019). During the event entitled "Let's Talk Environment and Planning", emphasis was placed on the "small people" – as Floyd described himself and his neighbours – as "stakeholders". There was a need identified for educational programming that focused on the "values of the population and a change in awareness" and that would persuade people to buy into state-initiated environmental preservation projects. In public discussions related to national initiatives, it is often lamented that Jamaican people do not possess sufficient values and discipline to participate in plans to move the country forward. In the case of this streamed meeting, the sentiment was echoed by a comment that the population was focused on "the benefit of the pocket, versus the benefit of the beauty and health of society". The idea that poorer people in Jamaica tend to think in terms of short-term benefits rather than long-term sustainability is a common ideological differentiation, setting middle class Jamaicans apart from the "less disciplined" lower classes (Austin, 1983; Harrison, 1988; Thomas, 2004). In order to bring the public on board, plans were made to create a survey of attitudes towards the marine and natural environment in Jamaica. Looking back at my conversations with Floyd, it is clear that from the viewpoint of the prospective stakeholders the beauty and health of society, as promoted by environmental sustainability programmes, was already highly valued and had already been disrupted without regard for the health of their communities. Floyd described in great detail how the large trees that used to dot the sugarcane fields had been removed to enhance the efficiency of mechanical cane-reaping machines; with the tree removal, he told us, the large root systems that provided cover for the fish and slowed the flow of the river water to create breeding areas and egg hatcheries were also removed. These changes had been planned by an industrial entity that was rooted in protocapitalist plantation histories and had been facilitated by a legally permitted and regulated engineering process. The ways the river contributed to the beauty and health of the local community – whose members were geographically close but, as "small people", nearly invisible – was not taken into account, even though they would no longer have a place to swim or a plentiful fish population to harvest, consume and sell.

There was ample support for the conviction held by "small people" that it is, in fact, the wealthier and well-connected political actors within Jamaican society that do the majority of environmental harm and who have the option to manipulate regulations or to have environmental harm addressed through the legal system. Problems with the system of regulation and enforcement were frequently raised in relation to the ways in which testing and monitoring of water quality was orchestrated, with the idea that the monitoring process itself was corruptible and could be used to perform compliance while environmental harm continued. One business owner, when talking about how NEPA was considering restricting boat traffic on the river to particular days of the week and particular areas of the river, told us that he suspected that the new limits might not support ecological preservation at all, but instead might be linked to potential plans to mine the river bottom for peat, which would then be turned into slurry and pumped into tankers for transport. He backed up his suspicions by talking about the problem of NEPA hiring private firms to conduct environmental evaluations on their behalf; his implication was that the private

contracting for this assessment created space for corruption of the evaluation process such that it would favour those with an interest in promoting riverbed peat mining.

The same issue of the corruptibility of environmental regulation processes came up with specific reference to the rum factory. One of my research participants from the Social Development Commission told me that sugar estates have always released effluent, including dunder (a byproduct of rum production) into rivers. Dunder is frequently repurposed as fertiliser in the sugarcane fields and creates an oversupply of nitrogen when it is washed into waterways. She emphasised that the sugar estate on the Black River was actually the most compliant of all the sugar estates on the island. She told me that because the estate is privately owned it could be made a target for environmental lawsuits even though there were government owned and operated sugar plants that had long been out of compliance with NEPA standards. She added that the estate on the Black River faced a particular set of environmental issues that were linked to the fact that it is situated on a floodplain, and whenever the Nassau Valley floods the storage ponds are breached and the effluent gets washed into the river; this was a situation, she said, that was intensifying with the increase in storms over the last 20 years due to climate change. Another feature that may have made the privately owned rum factory more susceptible to pushes for environmental compliance was the presence downriver of another well-financed privately owned international business. The aquaculture operation was situated on the river below the rum factory; it had the means to file a lawsuit for damages stemming from NEPA non-compliance and water pollution in ways that most local residents – particularly those making life on the edges – did not.

When I interviewed the head of the Social Development Commission regarding livelihood and environmental issues on the Black River, his first response was to highlight the ganja being grown in the morass and the fertilisers and pesticides from that illicit industry that were polluting the waterways. Echoing NEPA's language of turning residents into environmental stakeholders, he discussed solutions that included providing appropriate alternative livelihoods for the farmers so they would "desist" from growing ganja, which had recently been decriminalised for personal use but was still not legal. He suggested supporting other forms of agriculture in the area that would use greenhouses and would create the potential for ecotourism. He also noted that the key social issue in the area was employment, stating that the area residents were middle and working class as well as working poor and that a lot of local livelihoods are focused on farming and fishing in the river. He did not mention other larger industrial polluters operating on the Black River, and when I asked him specifically about aquaculture as a source of livelihood, he told me it was not an area for the "small man" but was a larger-scale industry.

I had the opportunity to tour the US-owned, Jamaican-operated, tilapia and basa farm that had initiated the lawsuit against the rum factory; this was the lawsuit for river water pollution that had given rise to the public protest which first drew my attention to the water politics of the Black River. The director told me that it was a "public secret" that the rum factory was releasing toxic effluent into the Black River and that the discharge created a "biological catastrophe" in the form of fish kills. He said that it was always evident when effluent had been discharged because of the smell, but also because laboratory testing confirmed what the sensory clues had already suggested. He described the river water as smelling sweet like sugar but that, depending on the type of effluent, it could also smell like rotten eggs because of the hydrogen sulfides being released. He noted that the locals could always tell when there was a discharge into the river because the water would be dirty and black and have a foul smell. He did not seem to be specifically blaming the rum factory, but instead took the attitude that "everybody knows" cane processing pollutes rivers. He mentioned another state-owned factory that polluted a river such that a downstream shrimp farming business had been forced to close.

In the case of the Black River, the private rum factory was upstream from a large privately owned and US-based aquaculture operation that, because of its scale, had the means to seek environmental enforcement measures and damages, an action that was not available to Floyd and his neighbours. Because of the financial costs of seeking legal measures towards environmental enforcement, legal recourse is ordinarily not an option that small-scale local businesses and area residents who make a living

from the river are able to leverage. The director of the aquaculture facility was open about the court proceedings that were currently underway and told me that the rum factory needed to treat effluent in order to revive the ecosystem. He showed me an indoor nursery for the basa larvae and root stock and, pointing to the nursery tanks, said, "imagine if the effluent gets in here". When I asked him if that had ever happened, he said it had and that the effluent-polluted water had wiped out the developing stock, costing the company a lot of time and money since the fish take time to grow and mature before they can breed and are of a sufficient size to sell. He said they could install expensive filtration systems to prevent it, but that would not be "fair" because the upriver sugar estate had not been in NEPA compliance. Interestingly, this was another instance where the aquaculture business had hired privately contracted scientists to evaluate and monitor the river water quality for the purposes of the lawsuit, rather than relying on NEPA's ongoing water quality monitoring data, which had been provided to the rum estate.

This example highlights the ways water quality monitoring has come to be viewed as a performance of regulation and compliance, rather than as a source of scientific data. Lack of faith in the reliability of water quality monitoring arises from 1) distrust towards NEPA as a state agency within postcolonial systems of uneven governance and selective enforcement, 2) potential influence that is based on political and economic affiliations with private interests and other political actors, and 3) NEPA's outsourcing of environmental impact evaluations and monitoring to private firms. Damages were eventually awarded to the aquaculture operation and stipulations were put in place to retrofit the rum factory in order to manage the disposal of dunder and other effluent. The legal proceedings offered ancillary benefits to other river users as environmental conditions on the river improved, highlighting the mechanisms through which the continued marginalisation of poorer rural residents with river-dependent livelihoods occurs within processes of environmental decision-making and appeals for regulation enforcement. These same groups are disproportionately held accountable for the, at times, illicit livelihoods that create environmental damage along the Black River. They are targeted for education as stakeholders in the environmental awareness efforts of the Jamaican state. Meanwhile, it goes largely unnoticed that – in a context of racio-colonial capitalist water politics – they are enduring a disruption of their communities and livelihoods that is caused by environmental decision-making involving plantation-driven industrial engineering and irrigation-related river terraforming.

CONCLUSION

Protests linked to the disruption of sugarcane plantation production cycles originally drew my attention to a seemingly simple thread connecting industrial water pollution to labour issues surrounding Jamaican rivers. That thread, once pulled, unravelled a complex tangle of racio-colonial capitalist water politics. Jamaican river water embodies social relations that collapse the past and the present, the human and "more than human", and constituted by temporal simultaneity rather than by a constricting formality or progressive linearity. By examining riverine water memory in the postcolonial context of Jamaica, the dimension of time convolutes conceptions of progress, development and regulatory rationality, in relation to modern water processes. Black River water contains apocalyptic histories of European plantation slavery that forced enslaved Africans to make life in the small spaces of relative liberty allowed by gaps in the violent regimentation of plantation production. The provision ground was a space for the expression of humanity but also for the development of new forms of colonial extraction that were rooted in entrepreneurial labour beyond the plantation's fields. It is fruitful to consider the logic of the provision ground in relation to fishing, shrimping and other informal occupations that sprung up around plantations as a direct result of the necessity of plantation organisation around sources of water. Though analysis of colonial plantation organisation in the Caribbean has been disproportionately preoccupied with the significance of land, a shift in focus to the importance of rivers opens up new opportunities to think about postcolonial relationships to water that are constituted by water's embodiment of temporal

collapse. This riverine memory contains violent systems of protocapitalist production, continuities in rural survival strategies, and contemporary postcolonial processes involving the selective regulation of pollution and monitoring of environmental impact. The selective system of river water quality regulation, which my research participants frequently associated with NEPA, is a bureaucratic mechanism that, at the same time, selectively regulates people in a familiar postcolonial pattern. Entrepreneurial livelihoods that are patched together to make life on the edges possible offer a certain independence; they also, however, give rise to a selective invisibility in relation to industry. This invisibility leads to the exclusion of poorer rural community members from environmental decision-making that directly affects them as practitioners of river-based livelihoods in Jamaica. By examining postcolonial Caribbean temporal collapse through the medium of river water it is possible to better understand the ways the marginalisation of poor rural Jamaicans is experienced through, and continues to be shaped by, logics from the past; these plantation-era protocapitalist logics haunt modern systems of water regulation and neoliberal models of entrepreneurship, which offer both limited independence (as well as new forms of struggle) and new opportunities for exploitation through wealth and labour extraction.

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