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The Submarine World of Abalone

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A Research Report submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Arts

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Declaration

I declare that this research report is my own unaided work. It is submitted for the degree of Master of Arts in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

Ryan Poinasamy Signature _____ 13th day of March, 2020

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Introduction

Haliotis midae/perlemoen/perlie/ingquba/abalone/white gold/bao/bushik is a flat-footed sea mollusc, similar to other abalone species but native to the Western and Eastern coasts of South Africa. Their bodies are surrounded by many tentacle feelers which are used to sense their surroundings. Abalone "move by creating a series of wave-like movements across the[ir] muscular foot, which propels them forward. They also use the foot for gripping on rocks" (Kgatla, 2015). Covered with a hard ear-shaped shell with a clockwise spiral, this herbivorous sea creature feeds on kelp and red and green algae by filing its catch through the ridges on its rough tongue. Their way of being, however, is disrupted when they are plucked, shucked, and dried out of water. Terrestrially, they ooze brown liquids, lose the green tint from their feelers, and harden. This hardened flesh is preserved, pressed, packaged and flown over borders or shipped to meet with clientele where the flesh is prized as a signifier of upper-class status. This flesh is then tenderized till soft, fried in butter, made into stews, or cooked in several different ways before eaten. The worlds abalone flesh animate are varied, and submerging into each of them leaves one entangled amongst the sticky tentacles of many bodies, some human, some non-human, others cyborg.

Engaging with these different bodies requires understanding the different variables on their terms and the difficulties in carrying out that act itself. This Introduction engages this task within the following sections: the first section contemplates the idea of thinking about/with abalone and what the differences between those prepositions do epistemically; the second engages with the different human entities (myself, poachers, governmental institutions, organized crime units, and the producers of the different texts studied in this research report). Following these different entities leads us into very different areas, sometimes too remote to

form a coherent whole. However, this research report thinks about multispecies environmental justice in the age of ecological destruction guided by a question proposed by Shuhood Abader (2018: 217), an abalone diver/a provider we encounter in one of the texts engaged with:

> "So I ask, 'Is the preservation of one species more important than any other?' Then again, it's just my own thoughts."

To engage with Abader's provocation, this research report adopts Donna Haraway's (2016: 23) SF practice and process as "a method of tracing […], where who lives and who dies and how [it] might become clearer for the cultivating of multispecies justice." Working interstitially, or what Haraway (2017) would call "tentacularly", I will trace the lives of abalone in the sea, as well the lives they live on land in farms and the worlds their flesh animates when dried or frozen. By doing so, this research report intends on synthesizing the seemingly disparate bodies of literature concerning abalone, from biological studies analysing the shells of abalone for the design of supermaterials (Li et al, 2004) to studies interested in the border control issues that arise from shipments of abalone transported to foreign markets (Steinberg, 2005).

Abalone Ontology

In searching for representations of abalone, I find myself immersed in a plethora of images that show the animal as produce at markets and in kitchens, biological studies, and others that tear apart the animal to highlight the nacre inside. Children's books, similarly, consider the shell but quickly divert attention to the abalone's mother-of-pearl interior (see Posell, 1969). Business How-tos consider the life of Australian businessperson Ron Massie and his project

to can abalone but fail to imagine the abalone on its own terms (see "The Abalone Mystery" in Evans, 1997). Abalone have not yet been captured aesthetically in literature, their representations, for the most part, render them as flesh to be consumed, as material to be worn. They are not privileged in the way jellyfish have captured imaginations thus creating a politics of "posthuman environmental concern" (Alaimo, 2013). Instead, they have been captured as a commodity, from Abader's account of abalones in the sea being similar to money in the bank (as will be explored in chapter 1), to state-sponsored abalone ranches in the Eastern and Western Cape.

In these ranches, such as Viking Aquaculture (engaged with in chapter 2) and Wild Coast Abalone, over one million abalone are produced a year (Whitehead and Witte, 2016). These seedlings either live the entirety of their lives on land in plastic tubs, or they are naturalized in the sea where they grow until mature and are then harvested (Sales and Britz, 2001). This is part of Operation Phakisa, former president Jacob Zuma's plan to build an oceanic economy which included exploiting finfish and mussels amongst other sea creatures. Governmental institutions both seek to curb poaching, which now stands as a major problem to their business, whilst profiting off the same action of extraction. Abalone find themselves subject to many operations of this kind, where their protection is centred primarily on the curbing of abalone poaching, such as with Operation Neptune and Operation Trident, two articulations of police interventions into poaching networks.

These operations aimed at upholding the "Marine Living Resources Act of 1998" and the "Regulations for the Protection of Wild Abalone (Haliotis) of 2008" which aims at protecting abalone, or more accurately prohibiting certain actions from happening in five key poaching areas. The action prohibited is "diving" which means swimming in the sea using prohibited

gear. “Prohibited gear” is a long list including goggles, masks, breathing apparatus, and the catchall “any implement which could be used for the harvesting of abalone”. This research report, however, asks, what if we were to shift from the prohibition of poaching to thinking of abalone conservation in terms of their observable biological behaviours. Recognising the “natural media” ingrained in the chemical compound of abalone shell (Jue, 2018), the family structures they uphold in the ocean (Attwood, 2000) and the alliances and enemies they encounter, what would it mean to think with/about ‘wild’ abalone to conserve them?

When thinking about the planet we are quick to distinguish between humans and other animals and plants, placing the human above nonhuman nature. Terms such as the Anthropocene provide little when thinking with all these different scales and agents, instead, it creates, to borrow from Elizabeth Deloughrey (2019: 2), a “universalizing geologic”; one that erases the different time scales (or speeds) that exist in the world: “the slowness of the leatherback turtle, the speed of the viral vector or the bacterial network” (Wolfe, 2017: xii).

Anna Tsing in *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (2012) challenges this human-centred perspective, by thinking with matsutakes mushrooms and trying to sense the world differently. Despite conditions that would seems devasting in capitalist maps of progress, the mushroom sprouts exactly in and because of these ruins, such as, the forests eviscerated by Hiroshima. There are limits in the imaginary proposed by the human-centred Anthropocene, that the agency of plants, fungi, creatures we have not yet encountered are able to challenge. These limits are typically centred around thinking about the end of the world, in particularly the human world, where the planet will no longer be habitable for human life, but life in different forms will continue.

One question that may prove generative to think with, is who do abalone belong to? If all the abalone are harvested, who does it affect negatively? And, why should we care? I raise these questions to think about other forms of abalone harvesting. In particular, I am interested in scientific studies that have analysed abalone shells to mimic their structures in the development of computer chips. Do the abalone get paid for their knowledge, and if not, can this also be considered a form of poaching?

What does the mass production of abalone mean for the environment? When considering aspects such as these, we are also considering the mutation of cultures, both that of abalone and that of humans. Will the exclusivity of abalone still be considered so prized once aquafarming sites have properly realized the potential of the aquafarm; a once-rarity now being mass-produced. Without the threat of rock lobsters, what does the flourishing of abalone, even on land, tell us about the world? Similarly, the mass production of abalone does fulfil a planetary service as well, in fulfilling the task of feeding the millions of abalone, large amounts of kelp, and seaweed has to be cultivated as well. Both the latter have been of interest for their surprising carbon-capturing potentials. The abalone aquafarming sites are excellent spaces for thinking about how big capital can inadvertently have positive effects on the environment, at least as long as the abalone stay on site, or are transported using clean modes of transportation. To ignore these contradictions when considering ideas of environmental justice would hinder any serious reflection about how to think of the future of this planet.

For abalone life, however, I am tempted to think in one of two ways: either these farmed abalone mark the start of a species, or the end of an older, ‘wilder’ species. I tend to side more with the latter, thinking with and about the extinction of a way of life. The terms I

employ, however, and my method of thinking are more and more anthropocentric; to suggest that the farmed abalone are less wild means I am thinking about untainted nature as something that exists outside of the 'civilised' human. To think with animals however, necessitates this type of thinking, that is relating them, or seeing how they relate, to humans. In summarizing the complexities of this method of thinking, Lorraine Datson and Gregg Mitmann (2005: 5) pose the following question:

> In thinking with animals, how might we capture the agency of another being that cannot speak to reveal the transformative effects its actions have, both literally and figuratively, upon humans?

The answer seems relatively straightforward, that is: humans are unable to capture the agency of other beings, be it human or nonhuman. The follow up to this, then, would be to ask: why care about another being, what are the ethics behind the now redundant "environmental friendliness"? As mentioned above, this research report considers extraction as human, and although there may be ways for a less violent mode of extraction (particularly those involved in the extraction of raw material from the soil), it is difficult to think about one solution for environmental justice, without taking multiple perspectives, from multiple vantage points.

Positionalities

But exactly how many perspectives can be considered, and how many voices are available to me as I think through the question of multispecies environmental justice? Searching for texts that would allow for multiple perspectives to be considered proves difficult, and those that are accessed prove to be disparate in form and perspective. Thus, the fragmented nature of this research report stems from what Grace Musila (2017) would call the need to "navigate

epistemic disarticulations". That is to tap "into different epistemic archives, developing an eye for the different nodes of connectivity, and setting these in conversation with one another. It also calls for an openness to, and active embrace of, porous disciplinary boundaries […]" (ibid.: 699). The agents involved in the commercial extinction of abalone are many. This research report, however, will focus on three particular agents: the poacher, the government, the abalone. Each of these operates with different logics, and although all connected, require a specific kind of thinking in order to comprehend the grounds on which their particular claims are being made.

There is a particular thread that sews the texts studied together: each of them is mediated through the frames of a white male voice/producer/director. The first text studied is *Poacher: Confessions from the Abalone Underworld*. This text began life as an autobiography by the poacher/provider Shuhood Abader; his initial title being *Confessions from a Poacher*. Whilst in jail, he started the manuscript on the suggestion of a local publisher who suggested money might be involved. He arranged to be transferred to solitary where he could write away from the crowded cells. He took inspiration from the adventure stories available, in particular novels by Wilbur Smith which he soon found uninspiring: "white hero and faithful black manservant and a beautiful woman. Always." (de Greef and Abader, 2018: 61). The original manuscript was rejected by publishers for its unremorseful voice. It was then rewritten with the help of journalist and criminological researcher Kimon de Greef who contextualised "the perlemoen's demise" by considering "circumstances, both past and present" to create *Poacher: Confessions from the Abalone Underworld* (de Greef and Abader, 2018: 10). The manuscript "distinguishe[s]" Abader's voice "between quotes from his book (with 'he wrote') and from interviews (with 'he said,' or similar)" (ibid.: 14). The only way to access

Abader's life then is to sift through the important details provided by de Greef, to find "his voice with only minor edits [by de Greef] for clarity" (ibid.).

The second set of texts are website pages. These are linked to the aquafarming company Viking Aquaculture which has two abalone aquafarms: Buffeljags Abalone Farm and Diamond Coast Aquaculture. Both of these farms have videos produced to showcase the vast operations undertaken, and in each instance, the Black workers fall into the background whilst in the foreground White hands pull abalone out of buckets without any hindrances. This produces a stark contrast between the Black/Brown hands that are typically associated with the illegal act of poaching. This trope is seen more vividly in the last text studied, Morris' *The Story of the South African Quaalude* (2016). In this expository documentary, Hamilton Morris traces the history of methaqualone/mandrax by interviewing and interacting with Black and Coloured abalone divers, chemists, and drug dealers to explore the abalone-mandrax assemblage honed together by Wouter Basson's apartheid history of chemical warfare. In order to think about multispecies environmental justice, these are the sorts of texts I must engage with, texts which inadvertently reproduce racial hierarchies but are ultimately concerned with the very question that guides this research report; although our answers may be different. Thus, the task here will be to produce work that hopefully highlights these silenced perspectives and foregrounds them whilst thinking about this question of environmental justice.

In the current turn in oceanic humanities, the trend has been not only to think with what lies beneath the surface, but also to think with those creatures from the seafloor: "to plunge into the water, not to overwrite the perspective of the amphibian but to come to think with, in, or even like the ocean" (Bystrom and Hofmeyr, 2017: 3). This requires "…descend[ing], rather

than transcend[ing], to unmoor ourselves from terrestrial and humanist presumptions as we recognize the multitude of aquatic modes of being and knowing" (Ailamo, 2015). As we do this, enter the water, the water ripples away from our salinity and diffracts around objects it reverberates against – the coral, rocks, octopi, and of course the abalone. The currents will bring ripples back that bounce off our flesh, and the process will continue. This process of diffraction is in many ways the methodology that will be adopted in this research report.

Working from Haraway's initial suggestions, Karen Barad develops this diffraction methodology by looking into the actual physical phenomena that can occur in any waveform. Diffraction occurs when waves pass through an aperture and spread out. Whilst spreading out, interference begins, the waves overlap, mute each other, grow stronger with each other, but the waves continue moving, suggesting a process still ongoing, still disruptive. This is a method for "making a difference in the world", being attuned to the differences that are occurring, a diffractive reading is a re-reading, an engagement with the entanglements that trouble our ways of knowing (Barad, 2007: 90). In this light, Barad says:

> There is an important sense in which practices of knowing cannot fully be claimed as human practices, not simply because we use nonhuman elements in our practices but because knowing is a matter of part of the world making itself intelligible to another part. Practices of knowing and being are not isolatable; they are mutually implicated. We don't obtain knowledge by standing outside the world; we know because we are of the world. (p. 185)

To know the submarine world of abalone means to highlight the ways we are already part of that world, and how we can begin thinking about justice for all the entities involved. In many

ways this research paper is an attempt to engage with abalone from the multiple vantages they occupy in terrestrial life and the components or avenues from which we are able to understand, what we may term abalone cultures. This engagement with abalone cultures requires the paper to be broken up into the following sections, sometimes overlapping and reiterating statements from previous chapters. This is done both in hopes of drawing out and extending the argument across the different fields, and also to demonstrate the ways in which the same data and facts can illuminate different factors of multispecies environmental justice: information that may be useful for the government in one way, may not necessarily be useful for abalone divers and vice versa.

This introductory chapter was necessary to explain the diffractive methodology that will be adopted in this research report. Moving from how abalone come to be in different representations to thinking about the many agents involved in this study, the introduction sets out the basis for the question of multispecies environmental justice. Chapter 1 will engage with the lives of abalone divers using the example of Shuhood Abader and considering the multiple motivations that submerge him in the sea. In chapter 2, the disaster narrative in the age of the Capitalocene will be drawn out by analysing videos created by abalone aquafarming sites, as well as newspaper reporting on algal blooms that threaten abalone produce. Chapter 3 delves deeper into the trade networks that emerge from an abalone-mandrax assemblage by looking at a documentary that covers the bartering between Chinese triads and abalone divers, whilst simultaneously considering the history of mandrax in the Apartheid regime. This is tied together in the conclusion by further contemplating the political role of representation in terms of all three chapters, and how we can begin to imagine justice.

Chapter 1: The Ocean Bank

Daily, online news reports are abuzz with headlines that concern abalone, including: "48 SUSPECTS ARRESTED FOR ABALONE POACHING" (Felix, 2020), "Boxes of abalone recovered on north highway" (Mahlase, 2020), "Disciplinary hearing clears high-ranking fisheries official accused of multimillion-rand abalone theft" (Petersen, 2020), "Police bust suspected abalone-smuggling syndicate" (TimesLIVE, 2020), "Anger as bodies of alleged poachers found near Gansbaai" (Mkentane, 2020), and "Project helps Hout Bay poachers turn lives around by becoming commercial divers" (Isaacs, 2020). These are only some of the headlines that have emerged in 2020, and at writing, it is only March. When presenting ideas from this research report, I am met with new information. One respondent shares his experience observing abalone divers being paid with tik. Another relays the story of an Angolan friend, who unable to obtain the legal documentation for work had to resort to abalone diving to establish a life for himself. The world of abalone divers is entangled with complicated lives, complex situations, filled with corruption and contradiction.

To better understand the world of abalone divers, I rely on the narrative Shuhood Abader produces in *Poacher: Confessions from the Abalone Underworld* (de Greef and Abader, 2018). His story is in no ways exemplary of the lives lived by all abalone divers, and my reliance on his narrative in this section is to provide background on the lives of these individuals and to nuance loaded terms like "poacher" and "poaching" that are abundant in the news articles. This is a contention which Abader highlights in the acknowledgements of *Poacher: Confessions from the Abalone Underworld*, thanking his "[…] seven kids who always saw me as a provider and not a poacher" (de Greef and Abader, 2018: 222).

In South Africa, the term poaching is typically articulated in negative ways and connected primarily with the killings of rhinos and the selling of their horns. This is what Abader seeks to challenge by highlighting the material conditions he was trying to fulfil as "a provider". British traditions, such as those depicted in E. P. Thompson's *Whigs and Hunters: The Origin of the Black Act* (1975), consider poaching (of royal forest deer) as a revolutionary act, making poachers out to be Robin Hood-esque characters using poaching as a way to achieve their political ends. What Thompson's text highlights is the question of who natural resources belong to, and in doing so, he uses the history of game pre- and post- the 1720s: pre-1720 game was considered free for all, post-1720 it became a crime punishable by hanging. The changing status of game and the motivators behind such changes demonstrates how the status of individuals can change from being poachers to not or vice versa.

For the most part, resorting to abalone diving is always animated by a need to survive, and this is most evident in the story of Shuhood Abader, a story which spans decades and traverses across the South African coastline and at one-point Morocco as he moves up and down the abalone trading networks. In the text, Abader recounts:

> There was big money for the guys who started to dive. They bought cars, some started to sell drugs, some just spent it - and everybody else just wanted to be like them. The sea was the bank. They lived without worrying about the future. You could just go to the bank and get more. (p. 59-60)

The sea for capitalist investors occupies this position as an inexhaustible resource (further explored in Chapter 2), but due to the ecological destruction that is created through the

commercial extinction of abalone, cash from the ocean "comes and goes, untraceable and liquid" (ibid.: 210-11).

The debates surrounding understandings of human–water relations refocuses on the fundamental question of what water 'is'. For Yates et al (2017) the governance of water needs to incorporate multiple ontologies of water including indigenous practices, and in their argument they highlight water as siwlkw and the processual concept of En'owkin for the Canadian context they are writing from. For Yates et al (2017: 800) to justify their argument for reading water through an indigenous perspective as "lifeblood – as an always dynamic process, always producing change, and essential to life", they, however, reduce and simplify capitalism's influence in water to a "narrow understanding of water as a compound or resource (H20)". This binary distinction however is not helpful in allowing us understand the ways which different thought systems co-exist and mutate alongside each other. The world of capitalism does not produce a single class: homogenizing capitalism and the workers who participate in its precarity, as Yates et al do, hinders the possibilities for social movements against ecological destruction. Instead of highlighting the ways indigenous people in Canada are also made to participate in systems of capitalism, Yates et al differentiate between the two. Their argument assumes that capitalism lies in opposition to indigenous ideas, but in Abader's story, we see an understanding of the confluence between the two. Harry Garuba's (2003) work on "animist materialism" offers a useful alternative interpretation. His work suggests that capitalism and the indigenous lie parallel to each other, bringing forth a continuous "re-enchantment of the world" (ibid.: 265). Drawing from his work we can see not only how these two different thought systems can operate alongside each other, but how they feed off one another. Similarly, Jean Comaroff and John Comaroff (1999) show how

capitalism can be a catalyst for the reanimation of indigenous practices as individuals come to understand the precarious conditions created by capitalism.

The motivations behind why individuals begin diving range from trying to make extra money for university to individuals, left with no other option, trying to support their families. Abader's motivations fall into the latter. He traces these motivations from the forced eviction from Simon's Town his family faced during Apartheid, to the difficult livelihood he had to succumb to in the Cape Flats, and then his move back to False Bay where he began his abalone diving career. The choice to dive, however, does not only affect the individuals who choose to in physical and spiritual ways but extends generationally to their families.

A Cowboy on his Way to Mecca

At the end of Abader's diving career, he has two goals: the first is to become part of the Long Riders' Guild, a list of individuals who complete a journey of 2 400km by horse, and the second to fulfil one of the five pillars of Islam and complete the hajj. The motivations for each are different but the influence of the illicit abalone trade Abader was entangled in can be seen as influential: Abader's diving activities inflected his two life goals, while the two goals also influenced his poaching activities. His dream to become part of the guild is motivated by a childhood love for horses, and the regret he has for never being able to pursue his love of horses. More strikingly, he says that pursuing this journey would allow him "to feel totally independent" (de Greef and Abader, 2018: 183). The archetypal figure of the cowboy is reminiscent of his feelings. Without any hindrances or need for explanation, the cowboy and his horse ride into town, settle for a few days and are then on their way – a figure of stereotypical white, American masculinity, the image of power. In contrast, the realities that motivate Abader to engage in the precarious world of poaching have him feeling trapped and

constrained. His cowboy narrative is also a narrative that tries to lay claim to the land by riding across it, a form of resistance to being previously dispossessed.

Simultaneously, his need to perform the hajj is in his words "to atone for sins [he has committed] against mankind and nature" (ibid.: 217). Abader's reliance on the ocean to finance his hajj pilgrimage also places him in a history of Muslim pilgrimage in South Africa. For Baderoon (2014: 73), the ocean holds a "particular meaning" for Muslims in South Africa, it is both the place from which most Muslims arrived into lives of slavery and indenture and the platform on which "a new and sacred geography away from these traumatic histories" can be performed through hajj. Muslim pilgrimage in South Africa was historically done by way of the sea, travelling across it to other ports on the East African coast before connecting to Mecca. Islam factors in as an important force in Abader's life, not only as a moral compass with which he gauges his actions but also as a practice with which he connects when entering the water. Despite being born Muslim, Abader's life has steered him near and far from the practice he knows. During his lifetime he experiments with practices of Islam which include the Sufi order, or tariqa, and eventually settles in the Tijani order, a practice of Islam popular in West Africa (de Greef and Abader, 2018: 167-171).

The influence of Islam in his diving can be seen when Abader prays before each dive, as well as when his friend Carl drowns on one of their dives; the book itself is dedicated to "those of 'us' who perished at sea". Following the event, Abader says: "The sea wasn't right. You just get this feeling. I knew that man's spirit was never laid to rest" (ibid.: 207). So, he enlists the help of a Sufi friend and goes to the spot where Carl's body was found, and as his friend tries to recite the prayer he begins to stutter "as if something was in front of him trying to push the words back in" (ibid.). This event leaves a lasting impression on Abader and is one of the

events that influence him to stop diving. These two narratives demonstrate how Abader attempts to resist the pervasive histories of capitalism and racism to try and imagine life otherwise. That is to own the land, he has to ride across it enacting a form of settler narratives, a form of colonialism. To be pardoned for his sins, to escape upwards into heaven, he has to procure enough money for his trip. These are facilitated by Abader's submergence into the sea and can be read both as the effects of the stifling capitalist system, as well as a mode of resistance through which he can access different temporalities.

Working in Water

Submarine perspectives from those who plunge beneath the surface produce representations of the sea as an otherworldly space. The most renowned account comes from William Beebe in *Half Mile Down* (1934) where he narrates his experience from the then deepest dive in human history. "[I]n the blackness of the ocean's depths" he feels completely isolated, suggesting that the only comparable place to this must be "the blackness of space, the shining planets, comets, suns, and stars must really be closely akin to the world of life as it appears to the eyes of an awed human being, in the open ocean, one half mile down" (ibid.: 147). What happens, however, when this submarine world becomes the space you work in? By focusing on the Abader's account, the different kinds of preparation and care that need to take place before submerging are made evident. From learning how to dive from a network of informally trained poachers to nearly drowning, Abader's sections are delivered in a cinematic writing style that is inspired by the books he read whilst incarcerated. For example, when Shakes, Abader's friend whom he is busy training, almost drowns, Abader writes (p. 95):

> I took a gulp and went down, pressed the inflate on the BC, but nothing happened. There was no air supply in his cylinder, [...] I unzipped his weight belt and bobbed up like a cork, unconscious.

This submarine world is one of dangers, where the terrestrial capacities of the human body are unable to sustain themselves. Shakes's episode becomes representative of the failure to acknowledge the diving reflex, and the limits of human capacity despite the diving equipment.

An example from a different context, without gear, would be the pearl divers from colonial Sri Lanka depicted in Leonard Woolf's "Pearl and Swine" (1921). In this short story, the submarine world is never represented, but its effects are felt when one diver's body is brought onto shore after drowning. Yet, in these high-risk situations, abalone divers are still able to create bonds that depict the submarine as a different, less stringent space. The abalone trading networks they find themselves in challenges many of the terrestrial logics Abader is accustomed to in post-apartheid South Africa. One such example is the camaraderie he finds with Afrikaans divers while in Port Elizabeth. He writes (2018: 72): "Given South Africa's bad history, I expected to be treated like kak". This opens many possible readings. As trained workers, or at least as divers willing to risk their lives, coloured abalone divers can find an equal footing with those in power. This thread could be stretched to find resonances with enslaved seventeenth-century salvage divers, who by being highly-skilled, "cooperated and conspired with slaveholders and white employers to salvage shipwrecks and often smuggle recovered goods" (Dawson, 2019: 20).

These instances raise questions about what exactly these submarine worlds offer, and whether water is the particular material that challenges these connections. An obvious entry point into this thinking would be Paul Gilroy's notion of "offshore humanism". By leaving terrestrial solidity and submerging or being submerged in water, the human body produces, or should produce, for Gilroy (2018: 16-17), "an offshore humanism" activated by the "salty saturation" of human bodies which is distanced from any "ossified identity [that] would sink quickly in this deadly water". Gilroy's primary example is the bravery of Antonis Deligiorgis whose "Herculean efforts involved singlehandedly rescuing 20 drowning Syrians and Eritreans" (ibid.: 14), but resonances could be found elsewhere such as in the Children Overboard Affair of 2001. Although Gilroy acknowledges the political climate in Deligiorgis' case, he undermines the effect to which this may be the primary reason such humanitarian actions are performed. The racial and nationalistic elements condition the political and social sanctions that could ensue if these bodies were left to drown without any intervention and thus demonstrates the strong grip of terrestrial logics that extend into the sea. A logic which seeks not only to express "control over the ocean surface but also submarine and air space claims" that is "nearly synonymous with militarization" (Deloughrey, 2010: 705). But, I contend that a more helpful way to think about this would be to recognise how the precarious labour abalone divers are performing makes all of those involved vulnerable subjects be it because of the conditions of the sea, the threat of the law, or the need to fulfil quotas.

Ugo Rossi (2013: 349-351) would understand the bonds created in these abalone diving networks as embeddedness, that is horizontal exchanges and negotiations found within poaching networks which includes communication and bartering with other poachers, gang leaders, and boat providers. Embeddedness is one of three "mutually contradictory and

interrelated categories" in the "variegation of capitalism"; the other two being dispossession, and subsumption (explored later on this section). Dispossession reveals vertical relationalities and a dynamic of domination that is "capitalism's capacity to impose its rule over the world through the expropriation of common resources and the exercise of formalized or implicit violence" (ibid.: 351). In this report, this is understood both by the ways abalone divers are dominated in their trade networks, as well as the ways abalone are harvested. Subsumption, on the other hand, relates to the "immaterial, cognitive capitalism and general intellect" that can be understood as the training and ways of entering water abalone divers need to know (ibid.: 351). In Rossi's work (ibid.: 349) he understands "capitalism as a relentlessly expanding totality of social relations" that extends into every aspect of work. His definitions of embeddedness, dispossession, and subsumption are useful in helping not romanticise even horizontal exchanges in the abalone diving networks as they also form part of a larger exploitative capitalist system.

Understanding the life-risking situation they place their bodies in, the diver's role should not be reduced to simply being pawns in a larger network. By submerging, these abalone divers also challenge capitalist time and a post-apartheid system that has failed to provide them with work. In this submarine world, abalone divers interact with multiple species sometimes even swimming besides sharks, what Abader considers "a rite of passage". He says (p. 98):

> They devised a strategy for keeping safe. On the deeper reefs they would face each other while they worked, each watching the other's back. 'If you're alone, you don't want to do this kak,' Shuhood told me. 'There's sharks here. Big fucking sharks.'

Their preparation before going under includes waterproofing their phones inside two condoms, saying prayers, and oiling their bodies to create a layer between their skin and the rubber wetsuit. These rituals prepare them for the waters that operate on different conditions to the terrestrial worlds they walk in. To survive in and out of the water the poachers form bonds with other poachers and understand the waters in terms of their relation to poaching abalone, and the relation other creatures have to abalone flesh. By this, I mean to highlight that the ways they come to understand water rely on the way they understand other fish relation to abalone flesh. In the deeper reefs Abader speaks of, they would not shuck the abalone until they were safely out of the water. In this way whether it is safe or not to shuck the abalone in the particular area depends not only on the area, but also the other creatures that could be found in that area; abalone flesh could attract sharks placing the divers lives at risk. Their relation to water then is also marked by how far they can go out when alone, an episode explored through the bond Abader makes with Ali when they decide to dive deeper out. This relation is yet another example of camaraderie abalone divers engage in underwater to protect themselves in the deep sea.

Being part of this poaching network also means being subject to dispossession. Poachers are not always paid according to the agreement; sometimes they fall prey to the harsh exploitation common in these illicit markets when gang members threaten their lives. Furthermore, poachers use violence and domination to extract abalone from the sea, and so are themselves, dispossession perpetrators. These differing factors highlight what Tsing (2005) would call “the friction of global capital”: its messiness and the connections created through it. These include the highly-devalued labour of mothers who freeze the abalone for their sons involved in poaching, children used as runners to avoid detection by authorities and even enlisting the help of Pancho a young horse Abader bought when unsuccessfully trying to

escape the world of poaching. Abader tries to reduce the chance of being caught with abalone on him. He explains: “A horse will always run back to his stable. He might stay away for a day, go explore and that, but if he’s starting to get hungry he’ll go back.” This proclivity of the horse brings the abalone safely to the stable where he can collect it and distribute it back into the trade networks by way of the Chinese triads.

Abalone divers’ positionalities are multi-layered and varying, and this trickles into how subsumption works in relation to abalone poaching. Subsumption works on knowledge-based economies and immaterial capitalism, this is the knowledge that Abader holds. The capacity to enter the water whether with the preparations that he makes to his body (oiling the skin before getting into the wet suit), his equipment (phones protected inside condoms — to call for help, to call for pickup), or his spirit are all part of immaterial capitalisms that Abader holds in the network he is working in. These knowledge-based economies both help the global networks keep poachers motivated and tied to the trade, but also as is the case of Abader pushes them towards leaving, making space for younger poachers to enter.

Chapter 2: The Sea as Anti-Plantation

In 2014, Jacob Zuma initiated Operation Phakisa, a project aimed at creating an oceanic economy that would not only sustain the maritime ecologies of seaweed, finfish, mussels, abalone and more; but also involve local and rural economies by providing jobs. The project's rather noble intentions would have positive effects not only for individuals who have not been able to gain employment for themselves post-apartheid but also for planetary conditions – the production of seaweed on aquafarming sites having the capacity to draw out carbon dioxide emissions. However, once initiated the project encountered several hurdles, some of which show the true nature of this project and the way aquafarming projects have had to adapt to ensure sustainable profit goals.

The original model was based on producing, as was the case for abalone, seedlings (baby abalone) that would then be transferred into the sea and left to grow until ready to cultivate; some aquafarming sites still practice this method. Other aquafarms altered their models with the threat of algal blooms and aquafarms were then moved onto land. This required producing enough kelp and seaweed to provide sustenance for the produce, and creating artificial conditions that would be conducive to their growth and production. This controlled setting, however, lies in direct contrast to the sea, which can be read as an anti-plantation because of its logic, which is not always as favourable as capitalist modernities would require it to be. The sea as anti-plantation also develops from the sensory aspects that are muted whilst in the sea, in particular thinking about the plantation in relation to sight, but also other senses humans privilege on land that are not available underwater. This anti-plantation sea was made particularly clear with the red algal blooms that occurred in the Western and Eastern Cape in 2014 and 2017 and its framing by the media as a disaster. Drawing from

these different sources, that is, the site of aquafarming and the reporting of algal blooms, disaster can be understood in terms of profit's loss if narrated with the logic of Homo economicus in mind. By reading the different texts created by the aquafarming sites and online paper reporting on algal blooms, I will demonstrate this logic which begins by understanding the particular time of these productions.

Homo Economicus in the Capitolocene

In "The Working Day", Karl Marx (1887) refers to capitalism as a vampire: "Capital is dead labour, which, vampire-like, lives only by sucking living labour, and lives the more, the more labour it sucks". His invocation of the vampire resonates with Ailise Bulfin's exploration of the zombie figure in terms of catastrophe narratives (2017: 142): "… the zombie's defining characteristic – the relentless, unreasoning, destructive drive to consume – mirrors an economic model predicated on constantly increasing consumption and the resulting industrial activity which definitively drives climate change". There are many terms used to understand "the resulting industrial activity", the most popular being the Anthropocene. This term marks, in Elizabeth Deloughrey's work (2019: 2), "the enormous scales and their discursive histories" which have collapsed "the figures of nonhuman nature, the human, Earth, and now the Anthropocene" under "a universalizing geologic". The limitations of the term Anthropocene, however are in its claims that the human in general is at fault for our current ecological condition. In order to redress this, a number of alternatives have and will be developed to identify the different systems believed to be at the origins of our current condition; this includes engaging with systems of capitalism (Capitalocene, Econocene, Necrocene), transatlantic empire (Plantationocene), patriarchy (Manthropocene), European/white settler colonialism (Eurocene), twentieth-century globalization and its

regimes of disposability (Plasticene), or all of the above and their engagements with a frightening alterity (Chthulucene) (ibid.: 22).

What these alternative terms do, firstly, is suggest that not all humans are equally responsible for the current ecological destruction of the planet, taking into account the waves of colonisation that reshaped and moved bodies and plants in violent ways. The terms highlight the structures of power and systems of domination at play in the age of humans. The terms, secondly, highlight the problem as distinctively structural, allowing for racial, gendered and other critiques to take place. These interventions are beneficial for this study as it allows us to understand the racial implications embedded in these systems of aquafarming that now flourish in post-apartheid South Africa, and the positions these Black and Brown bodies occupy. Donna Haraway's Chthulucene, however, plays with the very category of the human to suggest something else completely – thinking with the tentacular to understand the lives that exist beyond our narrow anthropocentrism. The term is important for its ability to help us realise that life (perhaps human, but most likely not) will continue regardless; hagfish will continue swimming in sulphurous lakes at the bottom of the sea, and the pre-historic coelacanth have existed for a number of the geological ages.

What these arguments allow us to think about then is: who is the catastrophe narrative written for, what are these ages concerned with? In this section, I am chiefly concerned with Capitolocene, a term that occupies and interrogates the capitalist system responsible for this age of ecological destruction, building on Marxist theory to assist in understanding all the individuals implicated – this includes, at least in my reiteration, an understanding of the gendered and racial exploitation that happens under systems of capitalism. Although this is not the primary concern of this study, when one looks into the networks of abalone poaching

which have emerged post-Apartheid one realises the racial tones (in particular Coloured fishing communities who unhappy with the conditions post-Apartheid are pushed into the sea where they find the only jobs available to them), as well as the gendered exploitation (which happens in terms of the male poachers devaluing the labour done by their partners, mothers, and children) (see Raemaekers et al.; Steinberg; De Greef and Abader). Furthermore, the term Capitolocene helps us to understand how catastrophe narratives are composed in terms of capitalist economies with the reader assumed to be Homo economicus: "economic man, is a series of choices to follow his best interests" (Tsing, 2012: 28). This section will investigate the following questions: how does the disaster get translated to Homo economicus? How is that logic understood?

The occupation of capitalism inland prompts us to think about the different scales on which this occupation is happening. But one neglected terrain is the submarine where divers, poachers, and fishermen are similarly engaging with the variegated ontologies of capitalism as they are pushed from the land to work in water as they attempt to hold space on land. These variegated ontologies of capitalism explains what happens to the abalone that are harvested, brought to land, and enter market relations primarily through smuggling networks. In the capitalist system abalone are not understood in terms of their ways of being, instead they are understood as commodities from which to generate profits. Should their lives be lost before harvest, profits are lost. If the loss of produce is not enough, the toxicity of algal blooms crops up. A thread could be drawn out to the case of the Great Tohoku earthquake and tsunami in Japan and the subsequent leaking of radioactive materials into the sea, where the threat was moved from the disaster the islands faced to the planetary scale. The task in this section, therefore, will be to draw out the textures that emerge from the algal bloom disaster and draw attention to the worlds that live beyond this threshold.

Abalone Culture

In order to understand how these algal blooms get framed, I venture into an understanding of two website pages for abalone aquafarming companies located in the Northern and Western Cape. These pages demonstrate the ways the state and its capitalist interests protect themselves from the anti-plantation sea, and create sustainable conditions to be able to see and touch their produce. The websites belong to Viking Aquaculture (www.vikingaquaculture.co.za), with two abalone farms: Buffeljags Abalone Farm (located in Bredasdorp) and Diamond Coast Aquaculture ("situated in a former diamond mining concession near Kleinzee in the Northern Cape Province"). Here the aquafarms stationed on land, meters away from the sea, grow abalone till mature and then package and sell the produce. The website features a number of pages: one redirects to a recipe page on how to cook the abalone, and another breaks down the nutritional value per 100 grams of abalone flesh. Abalone here are treated in terms of consumption potential.

The aquafarms themselves are expansive; taking over huge square kilometres of land (whilst the size of the Buffeljags Abalone Farm is not specified, Diamond Coast Aquaculture is a 400 hectare facility that currently consists of a 120 ton per year abalone farm), with pipes extending from the sites into the sea (whether the pipes are bringing in seawater or expelling factory waste remains unclear). Both the sites' textual information and videos produced are important in this analysis, but to elaborate on the idea of the scopic and tactile, I focus on the videos. Both videos produced by Viking Aquaculture are shot with a mixture of drone and handheld footage, their run time does not extend beyond two minutes, and their intention is to highlight the day-to-day operations of the aquafarms. The drone footage surveys the land, taking in the entire aquafarming site, from the tubs where the abalone seedlings are grown, to

the tanks specially created with manipulated temperature and lighting to encourage adult abalone to procreate all year round, and finally, following the pipes. The handheld footage looks at the workers and plantation owners interacting on the site, with each other, and abalone, holding them, feeding them.

The scopic intention of the video is to produce the idea of control over the aquafarming site. Firstly, in a reprise of colonial tropes, the videos imagine the aquafarming sites as idyllic spaces where harvesting can proceed in peace. The Diamond Coast Aquaculture video begins at the shoreline, with a sunset/sunrise in the background casting the site as that in-between zone not marked by specific time or specific place. This dis/locates the aquafarming site, placing in a space not grounded, and removed from logics of everyday life. With an up-tempo beat scoring the video, the plastic tubs, pipes, and mills are cast as part of a cohesive production line that does not reflect the violence of this manufactured nature that the abalone are experiencing in their manufactured seas.

These scopic interventions align themselves with the figure of the overseer; or further ideas of surveillance (an iteration of yet another colonial trope) (Spurr, 1993). In contrast to the images of the sea, the videos only submerge below the water when on the farm; the sea remains impenetrable. In one particularly striking scene (fig. 1, page 34), again from the Diamond Coast Aquaculture video, the camera goes underwater and shows the oxygen bubbles surrounding mature abalone. Later on (fig. 2), the camera follows a hand going submarine to retrieve an abalone which is pulled out of the tub and then zoomed into till the veins on its foot can be seen (fig. 3).

These videos redress and offer Homo economicus an alternative to the alienation he feels in water. Vision, the olfactory, the sonic are all distilled when we submerge, and this conjuncture renders the sea incomprehensible to terrestrial sensation. With the ability to control water, the aquafarming sites allow Homo economicus to breathe, feel, and stay attuned to his senses of touch, apprehending the abalone and rendering them understood for the site of consumption – the land. The extent of control exercised here, does not express the catastrophe of capitalism on the liveliness of abalone, because profits are being generated, but once these margins are threatened as in the case of the sea, a different approach is adopted by the narratives produced for Homo economicus.

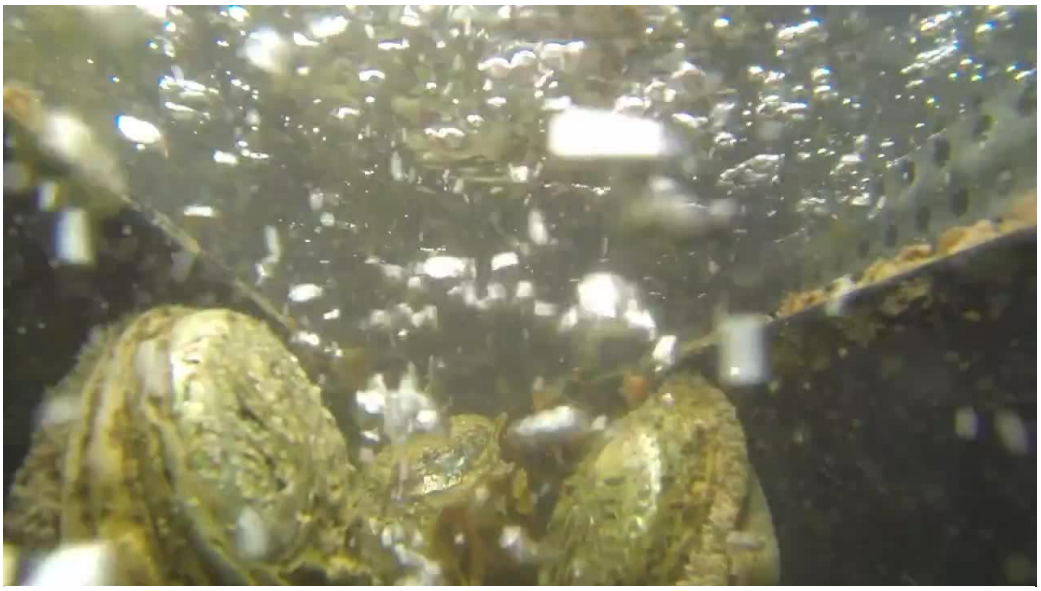

figure 1: Still from Diamond Coast Aquaculture video



figure 2: Still from Diamond Coast Aquaculture video



figure 3: Still from Diamond Coast Aquaculture video

Disaster on the Anti-Plantation

Red algal blooms are particularly harmful to sea creatures, in most cases resulting in suffocation by the overproduction of oxygen by algae, the two most intense occurrences happening in the Western and Eastern Cape in 2014 and 2017. The news articles produced by various websites about the algal blooms demonstrate varying degrees of conformity to the focus on Homo economicus and the operations he occupies in the grander scheme of things. These occupations begin with the commodification of the disaster – how much will the disaster cost? whose life and how much do they matter? what will the effects be on our profit margins? and what will the effect be on our produce? These features of news reporting will be analysed through an understanding of the capitalist investment in the sea (more specifically marine animals). Furthermore, the scopic regime remains dominant in these reports.

One narrative method through which this effect is achieved is by emphasizing the toxicity of algal blooms to heighten the dangers at play. The toxic and toxicity is an uncontrollable overflow of elements in the ocean. Some of these elements include the run offs of fertilizers used in terrestrial agriculture causing a nutrient excess that catalyses the bloom. It is precisely this uncontainability that is sought to be redressed in the aquafarming site. The algal bloom or red tide is a naturally occurring phenomenon where algae having too many nutrients, multiply and reproduce rapidly. This rapid influx of algae causes damage to the other marine life which most often results in their deaths. Most algal blooms are not harmful to humans, but particularly toxic ones (a rare phenomenon) can poison swimmers. Although the increased production of algae could be seen as a good thing, at least for the carbon emissions that hinder the lives of many humans, the ‘disaster’ is framed in terms of the loss it creates for production. The South African Environmental Observation Network in a post titled “Large-

scale toxic red tides plague eastern and southern coasts of South Africa" call an algal bloom from 2014 "the largest and most persistent red tide in recorded history". *JBay News*, on the other hand, in a blog entitled "What caused the red tide in Jeffrey's Bay" focuses on the washed-up bodies: "over the past two weeks [the red tide] is now causing dead fish to wash up on the beaches". In contrast to the "common conceptions of the living body [that is …] generally a contained unit", Mel Y Chen (2012: 225) explores how bodies of toxicity, such as the body of algae and "the very fact [that] it was not generally containable [as] rendered alive" and in need of managing. The red tide becomes a plague, a catastrophe that is "spectacular to the degree that it dramatized the uncontrollable shifting or transformation of matter at scales that dwarf and overwhelm human bodies" and their terrestrial logic (ibid.: 226). Thus, the red tide causes problems for Homo economicus, pushing him to find solutions for cleaning up the fish washed up, and to find solutions for how to protect his profits.

The other method used by the media is the statistical use of percentage, quantifiable loss. Far from being merely numbers, these statistics bolster an affective reaction as well. Knowing that loss is happening, puts things in terms that conflict with the interests of Homo Economicus. In an article in the *Financial Mail* (2018) entitled "Abalone farming: slow recovery from red tide", the red tide is cast as an impediment that hinders and therefore is in need of recovery, whilst also qualifying this recovery as taking longer than expected and thus operating in conflict to the time of capitalism. A natural algal bloom disrupts the harvesting targets for the next two years because not enough abalone will be able to grow, and the state thus has to begin from scratch. Despite the seedlings produced, the ocean seems to take on the form of what Tsing (2012) calls an "anti-plantation" resisting most forms of control from the state and the market. Despite the loss the red tide caused, there is still the possibility that some abalone escaped, moved deeper into the ocean and may live out their entire lives in

these reaches. But these lives lived outside of capital's range are not of interest to Homo economicus and thus the first line of the article reads: "Algal bloom serious blow to Hermanus operation with 46% drop in turnover to 81m in six months to end-December".

The third method is that of the visual. Unable to penetrate the surface due to the algal bloom, the images produced render the sea opaque (fig. 4). The algal bloom deprives Homo economicus of profit, rendering him powerless in the face of Earth's agency. Thus, he cannot see or touch the produce and this hinders the possibility of control needed and created on the aquafarming site. In one striking image accompanying the *JBay News* article, the sea is cast as a mysterious zone where the only thing visible are the stones peeking out of the sea, but shrouded around these stones are mist and luminescent blue ocean far in the distance. Whether this is the image from an actual site affected by the algal blooms, or just a creative rendering paired to the image by the sub-editor remains unclear. But the message that is delivered is that of an inaccessible sea, at least to those trying to get their hands on abalone produce. This representation lies in direct contrast to the aquafarming sites where Homo economicus exerts full control over the manufactured sea. The sea thus becomes a site of anxiety for Homo economicus, where he is uncertain of its depths and thus no longer in his



figure 4: Image from *JBay News* by Stan Blumberg

control. The algal blooms disrupt his desire to control, and thus is cast as that thing that is dangerous and damaging.

These sections are explored in order to understand the ways in which the catastrophe becomes understood in terms of capitalist investment. By exploring the figure of Homo economicus in relation to the Capitolocene, the particular logic of catastrophe (profits, capital, employees lost) and its textures are understood in relation and opposition to the ways catastrophe are typically understood. The logic of Homo economicus was then extended into an understanding of aquafarming sites that rely on the ability to see and touch in order to counteract the inapprehensible anti-plantation sea. The aquafarm emerges as a retaliation to the algal bloom, a way of navigating around the disaster. But for the abalone, the disaster may well be these aquafarms and the Capitalocene. In Morash and Alter's (2016) work on abalone aquafarming sites, they detail the ways in which these aquafarms with their use of ammonia (amongst other chemicals) induce farm stress on abalone physiology. The disaster narrative, therefore, is always narrated from a particular perspective.

Finally, the catastrophe of the anti-plantation sea was understood by looking into the reporting delivered by online newspaper articles and the ways in which they framed algal blooms. What emerges from these three sections is an understanding of the catastrophe, not in terms of human life on earth but instead with an understanding and involvement of profits. This demonstrates the variegated possibility of human life and different levels of subjugation we put the world through. Despite these multiple ways of knowing the world, the vampire-esque logic of capitalism continues, "not losing its hold … so long as there is a muscle, a nerve, a drop of blood to be exploited" (Marx, 1887), whilst simultaneously ignoring the

cannibalistic act it is engaged in and the catastrophe of ecological destruction it is involved itself.

Chapter 3: Abalone-Methaqualone Assemblage

Hamilton Morris' documentary *The Story of the South African Quaalude* (2016), part of his larger series on the history, chemistry, and societal impact of psychoactive substances entitled *Hamilton's Pharmacopeia* creates a narrative timeline looking at the assemblage created between abalone and methaqualone (commercially known as mandrax and quaaludes). The link is created by a trade negotiation between abalone divers, or the traders above them, who exchange abalone flesh with Chinese triads for methaqualone, or chemicals used in the production of methaqualone. The form of the documentary blends video elements from isolated interviews with mandrax users, mandrax dealers, chemists, historians, sociologists and others interspersed with archival footage from the court hearings of Wouter Basson. Basson was the person in charge of Project Coast, Apartheid's chemical and biological warfare programme. As the person in charge, he developed and planned methods of crowd control for the Apartheid government, usually involving chemicals such as teargas.

The different agents, past and present, involved in this abalone-methaqualone assemblage constitute rich sites for understanding the broader implications of multispecies environmental justice. To understand this network, I begin by analysing Morris' documentary video, I then move onto discussing theories of Project Coast drawing particularly on the work of Chandr'e Gould and conclude with the connection between abalone and Chinese triads.

Universal Environmental Justice

In trying to synthesise these different ideas from the history of mandrax to the trade between triads and divers, Morris' documentary foregrounds the atmosphere and smoke to invoke speculation, to think otherwise when facing the gaps and incomplete history provoked by the

apartheid government. In figures 5-7 (next page) smoke permeates through the atmosphere in very different forms. Fig. 5 highlights apartheid-era teargas dispensation trucks, fig. 6 located inside the home of a mandrax user demonstrates mandrax being smoked from a white pipe, and the final figure shows the smoke emitted from tires as a driver drags at an intersection in Soweto. In other sections of the documentary we see the mist over Table Mountain, we see foggy winter days. Beginning with figure 6, we learn about the movements of mandrax in these spaces: from being diluted in wine to being smoked. The smoke emitted from the car creates the connection of the smoke being rendered all-encompassing in the lives of Black and Brown people. The completely unrecognizable ways the drug is smoked in this documentary is something that Morris points out when thinking about how its use changed from being ingested to being smoked. Although the genealogy of the drug's use is not elaborated on in the documentary, it is easier to ask: is it mere coincidence that the drug is completely transformed here and now smoked?



figure 5: Still from *The Story of South African Qualuude*



figure 6: Still from *The Story of South African Qualuude*



figure 7: Still from *The Story of South African Qualuude*

What these ideas speculate is an "affective atmosphere", which "creates a space of intensity that overflows a represented world organized into subjects and objects or subjects and other subjects" (Anderson, 2009: 79). The ambivalence created by the text, therefore, can be read to suggest there is an overarching presence determining the current conditions of these subjects, a presence that flows into the atmospheric and out into the planetary as well. By honing in on aspects that create connections, such as smoke, mandrax, abalone, the documentary allows for reflection on the "global interconnectedness of our ecologies of living—natural but also social, mental, and infrastructural—[which] defies any linear understanding of a catastrophe and thus the very possibility of an accurate prevention of risk" (Thouny, 2017: 9). These reflections provoke us to think about the multiple ways we must engage in order to begin contemplating a practice of multispecies environmental justice.

The documentary that emerges is one that collapses many different temporalities and scales resulting in a diverse understanding of this complex abalone-mandrax network mediated through the lenses of what is meant to be scientific objectivity. Morris is constantly avoiding placing judgements: "I don't know if that's a good or bad thing" (Morris, 2016). He moves on the streets where he asks intoxicated mandrax users if they know of Wouter Basson, he sits in a room of "gangsters" and watches them smoke the psychoactive substance, but he always remains distant treating his respondents only as sources of information. Spectators are meant to side with him, to occupy the same removed position that he does, his audience is not mandrax users, not people in contact with this substance and its worlds. But his subjects are Black and Brown individuals, individuals who are ultimately rendered objects in the documentary's narrative style. Their stories in the documentary are historicised in terms of the effects of Apartheid, their "blackness is understood ontologically, it becomes a set of

questions (and assumptions) about blackness where being and knowing through blackness only comes through the historical injury of anti-blackness" (Mupotsa, 2019: 4). In the documentary, for example, individuals are reduced to mandrax users as a result of Basson's Project Coast, and the only mandrax chemist (who remains anonymous throughout the encounter) Morris interviews is tied to a life of crime: prior to synthesising mandrax he stole cars. Whereas the figure of Basson is given a complex arch in the documentary, Black and Brown individuals remain tied to, involved in, and understood only by their relation to the abalone-mandrax assemblage.

The danger of relying on only the assemblage is that different subjects get united on a parallel axiom, by utilising this method the abalone, methaqualone, and all those humans involved are united without a clear demarcation of how one begins to think about social justice. The logic, therefore, of the affective atmosphere is one that foregrounds a space of relations without thinking about how different bodies are positioned in these relations. The histories that shape these individuals and how to understand the work that needs to be done to undone not only to rectify the ecological destruction taking place but also to think about how to create racial equality in post-Apartheid South Africa.

But creating a model for social justice is not the documentary's concern, Morris' intention and his attention are motivated by a childhood "fascination" with psychedelics. He historicises the beginnings of mandrax in India where an unnamed doctor, at least unnamed in Morris' text, develops the drug to help "Indian housewives deal with insomnia". Learning about the drugs' potential, pharmaceutical companies bring the drug to the United States of America. Here users discover that if they resist the urge to sleep for 10-15 minutes they would experience a high that freed them of social inhibitions. Thus, begins the

overproduction of mandrax, its history as a party drug, and the "rosy nostalgia" associated with the drug in the club in the 60s and 70s. Quaaludes holds a prominent position in American imaginaries despite being banned over 40 years ago. Quaaludes crop up in recent films, such as *The Wolf of Wallstreet* (2014), to Frank Ocean's *Nights* (2016). Most recently, however, the drug was tied to the sexual assault allegations placed on Bill Cosby. Despite this fascination, the Drug Enforcement Administration of America reports no trace of quaaludes in the American market, or at the American border. South Africa is, in Morris' words, the only place in the world that still uses mandrax, and he wants to know why.

Project Coast

South Africa's history with chemical and biological warfare programs do not begin with the Apartheid government's Project Coast in 1981, but can be traced as far back as the 1940s. The state involvement with chemical and biological warfare was catalysed by the need for "chemical weapons and defensive measures that would protect South African troops against chemical and biological attack during the Second World War" (Burgess and Purkitt, 2001: 3). In 1943, to retaliate against the threats of Nazi biological warfare on British livestock, the Apartheid regime developed "anthrax spores, released by 500-pound cluster bombs, each containing over 100 four-pound spore devices" that could cover nearly 100 acres from impact (ibid.: 4). After the war in 1946, South Africa dumped large quantities of mustard gas into the sea but did not roll back its chemical and biological warfare program completely (ibid.).

In Chandr'e Gould et al's publication (2002) on Wouter Basson's Project Coast, they detail Basson's plans, production, and distribution of chemical weapons as crowd control, in particular, the large production of teargas. The intention of Project Coast was two-fold: "the need for alternative crowd control agents and the need to counter the threat posed by the

Soviet-backed Cuban forces in Angola" (Gould et al, 2002: 157). Two create effective crowd control and counter any threats, Project Coast had to conduct extensive testing of organophosphates on dogs and other primates, with little ethical concern shown for the well-being of animals. Tests "included the effect of brodifacoum on rats, a poison that causes death by blood loss and brain haemorrhage" (ibid.: 82). Seeking more effective incapacitants and crowd control agents, catalysed by the 1976 Soweto Uprisings, "scientists at Delta G [a group working in Project Coast] investigate[d] street drugs, including methaqualone" (ibid.: 124). These investigations, however, led to Phase 4 of Project Coast, called internally The Normalisation Phase, which included the production of street drugs whose purpose "remains unknown"; in the labs' production "a ton of methaqualone and a ton of MDMA cannot be explained as having been for use as CW [chemical warfare]" (ibid.: 7). In trying to look only at the facts, Gould et al do not speculate on the potential uses of this drug. Instead, they gesture towards presenting the evidence, namely that these drugs were found at the labs and the reason behind their production were unknown.

Two theories of the possible purpose of this production emerge from Morris' documentary: the first focuses on the fact that Basson's Project Coast detailed a method of distributing the mandrax in the air through canisters, somewhat like teargas, to incapacitate crowds; the other suggests that the drug was distributed into Black and Brown communities to create a dependency amongst these communities on such drugs, creating a docile, and less organised crowd. The latter claim may fall into the category of conspiracy, a conspiracy trope that many rely on to explain the dependency on drugs in their communities. But, when looking at historical documents related to Project Coast, scientists draw connections for these ideas by thinking about Basson's 1997 arrest "on suspicion of dealing in the street drug Ecstasy

(MDMA)"[1]. The idea of distributing mandrax in the air through canisters, however, is more difficult to trace, with experts seeing no scientific possibility for Basson's idea of crowd dispersing methaqualone, and some suggesting that the methaqualone was pressed into tablets and thus manufactured for street-level use.

At the end of the documentary, the only time Morris is in actual contact with a mandrax chemist, Morris discusses the chemical makeup of the sea and a new element that is added to the because of mandrax production. Water is used to rinse out toxins from the crude methaqualone mixture, and in Morris' own words "as sodium anthranilate washed down the drain of the great sewage ducts of Soweto, into the Indian Ocean and across the gills of what abalone remain in the coastal waters of South Africa", the sea becomes entangled with other matter (Morris, 2016). Many aspects are animating oceanic flows[2], circuits and tensions including the residues from mandrax production. In recent South African literature, there have been many attempts to recentre the ocean which simultaneously expands the borders to include histories of slavery and indenture, whilst also challenging the notions of the South African nation-state. In these reconceptualizations, the ocean figures as animated not only by drowned enslaved bodies, but also newer practices in the sea: baptism, cleansings, and other motivations. Thinking about how water is used to understand a colonial past, or

[1] When Basson was arrested, he was charged with the possession of a total of 3,158 capsules of MDMA in addition to 38.6 grams in powder form. He was also charged with dealing in 96.9 grams of methaqualone and the possession of 14 grams of cocaine. He was acquitted on the latter three charges in a ruling by Judge Willie Hartzenberg on 18 June 2001. The State had alleged that the drugs had been found in the trunk of Basson's arrest. Basson's defence lawyers argued that there was no evidence that Basson was aware of the contents of the trunks, nor that he had packed the trunks himself, and their defence was accepted by the court.

[2] The chemical composition of water itself is animated by an atomic tension. Freshwater (H2O) with its stable, fairly positive structure creates a bent shape that provides enough water surface tension to allow water striders to glide across pools of water. H2O's chemical makeup, however, is challenged when it encounters salt (NaCl). The positive charge of oxygen draws chloride's (Cl) negative charge, whilst the negative charge of the hydrogen atoms attracts the positive charge of sodium (Na). Ultimately, H2O's conflicting interests constantly fight to keep NaCl apart resulting in the dissolution of salt in water. This atomic tension is but one aspect of the ocean's complicated composition. As we move from the epipelagic zones to the hadalpelagic zones, the waters' pressure increases, light (almost) disappears when moving from the euphotic to the aphotic zones, and temperature decreases even as hydrothermal vents on the ocean floor gush with boiling water "agitated by the planet's tremendous heat and laced with sulfurous poisons" (Palumbi and Palumbi, 2014).

hydrocolonial past, is most clearly expressed in Hofmeyr's (2019) reading of Koleka Putuma's *Water* (a poem which diffracts South African history from the history of slavery, to understanding diving, and a mixture of genealogies). Learning from this archive of South African literature, I question whether it is possible to think about South African history from the sea, tracing flows that connect abalone with methaqualone by thinking about the chemicals that are dumped in the sea and essentially mutating the livelihoods of sea creatures and other animals.

The Chinese Triads

During Chinese migration to South Africa, as early as 1990, "the very first signs of illegal trading in abalone and rhino horn appeared to surface" (Harris, 2019: 12). These goods are "prized on the Chinese market as a delicacy and high-end cuisine and as a health remedy or aphrodisiac" (ibid.: 13). When it comes to abalone, they can range in price per kilogram from ZAR3350.00 (for a fresh abalone) to ZAR1200 (for dried ones) (ibid.: 16). These illicit activities are mediated through transnational organized crime units known as Chinese triads. There are currently seven major groups present in both Cape Town and Johannesburg, of which four are based in Hong Kong and three in Taiwan (Gastrow, 2001: 2). These groups are involved in a range of activities from trafficking migrants and shark fin to the importation of counterfeit good (Curtis et al, 2002: 43). There was no dedicated police force investigating these groups until the early 2000s when police saw the involvement of triads in "an expanding number of criminal activities including the trafficking of narcotics, prostitution and money laundering" (Gastrow, 2001: 2).

To facilitate such trade between what are mostly Chinese Triads and abalone divers a bartering system has been implemented where mandrax (and to a lesser extent crystal

methamphetamine or ‘tik’) or diethyl allyl acetamide (a primary component in the production of mandrax) is exchanged for abalone (Goga, 2014; de Greef, 2014). The Sun Yee On group remains the most heavily involved in the trafficking of narcotics, competing with Indian, Pakistani, and South African groups to dominate methaqualone importation from China to South Africa (Curtis et al, 2002: 43-44). Chinese and other Asian markets remain the main motivators behind the extraction of abalone from South African waters. In 2000 the estimated gross income from illegal exportation of abalone to Hong Kong was $32 million (ibid.).

In Raemaekers et al (2011) and Steinberg’s (2005) work on the illicit trade of abalone in South Africa, four major factors are highlighted to account for the rise of abalone trade. These include: i) the weakening of the rand to the US dollar after 1990, ii) pre-existing, highly-efficient Chinese triads, iii) inefficient border control measures, and iv) “mutation in the socio-political identities of coloured fishing communities” in post-apartheid South Africa “that animated the taking of the perlemoen stock from the water” (Raemaekers et al, 2011: 2). These four interlaced factors further demonstrate the scalar vectors with which capitalism occupies life. The most visible is the submerging of coloured communities post-Apartheid, the least visible is the ineffective border control measures. The poaching networks’ use of this inefficiency demonstrates a lateral occupation of land and crossing over borders to smuggle abalone, but also an occupation of the sky, with abalone flesh not being banned in neighbouring Namibia it is easier to transport this flesh from there. Thus, to maintain the abalone markets requires a sort of planetary occupation of the earth by different agents spreading from the submarine and reaching as far up into the air where water vapour condenses.

To trace the interconnectedness of these flows would be an arduous task, that would require one to justify choices, such as placing a particular moment as the beginning of this network. One route is to begin with the Indian doctor who invents mandrax, but the network would have existed regardless, a substitution for the drug, or a different drug would be created to occupy the methaqualone's position. So we could begin with post-apartheid, highlighting the ineffectiveness of structures post-Apartheid that moved coloured communities to dive. Or, we could begin in China where the tradition begins. All of these beginnings do nothing to think about the current situation, which instead requires us to think about what is currently happening and what we think the future can look like.

Endemic

- belonging or native to a particular people or country
- characteristic of or prevalent in a particular field, area, or environment

The abalone-mandrax assemblage produces an interesting ethical question. As the trade networks currently stand, if abalone are not present to trade, anthranilic acid will not be as easily available, mandrax will stop being produced (even if for a little while). Of course, I am simplifying gravely, but through this simplification, I hope to ask what happens when we think about and through questions of multispecies environmental justice from only one dimension, that is thinking only about the preservation of abalone, which means the continuation of poaching, the trade, the creation.

Thinking about this also brings up the question of who gets to choose who should die, who has the right to die. In that genealogy, I want to think about things in terms of what happens if we remove the ethics, see the intoxication of mandrax users as a way through which they

choose to die and live. I ask these questions not in “an attempt to advocate for a kind of sensory cosmopolitanism” but rather to think about “a method that may converse with other people’s methods of survival and/or thriving, to recognise, for instance, the trade in alternative temporalities and perceptions that may already be present” (Chen, 2015: 29). What happens when we think about all these questions of agency without actually considering what that would mean, in other words beginning with the abalone divers, going to users, traders, etc. Is Capitalism to blame? How do we think about that particular archive and think about things in terms of what happens in worlds that are dictated by other systems and structures?

I raise the question of extinction to think about species in a very material sense, abalone flesh animated circles of life in many ways, mandrax can be seen in the same way. What happens now when we consider the life of humans as more important, do we kill the mandrax?

Conclusion

In this research report, the task was to think about what multispecies environmental justice would look like, by considering the particular entanglements abalone have found themselves in. This included considering abalone divers, aquafarming projects and finally the abalone-methaqualone assemblage that emerges in trade networks relating to abalone and their flesh. Through this diffractive method, I was able to interact with the different agents involved on their terms. The agents studied, however, were not exhaustive or representative of all those involved. Potential extensions could have been explored in terms of the Chinese triads, or expanding on the different histories of abalone divers, but these were both not as accessible as the sources I did engage with and would have fallen outside the scope of this research report. In contemplating these issues, the aspect of representational lack or imbalance crops up, a lack which the abalone themselves are victim to. For R. Radhakrishnan (2003: 42), justice must insist "on the politics of representation" to enable engagement with "dire social issues as equality, distributive justice, and reparation and compensation for crimes and injustices of the past, and the ongoing influence of the past on the present". His provocation is principally in relation to multiculturalism debates, but what happens when we extend this politics of representation towards a study of multispecies justice that looks at abalone, divers, and others as species of their own. Where do we begin to the engage injustices of the past? For the human subjects this may be easier, being able to both engage and relate to their genealogies, but others lie beyond accessible genealogies and what happens to those subjects we cannot begin to imagine.

One method I tried to move away from in this research report was to anthropomorphise the non-human animal, something I flag in the introduction in order to explain the particular

violence that would do, and the reason behind my method of focusing principally on the humans involved in abalone demise. Anthropomorphisation is sometimes followed, sometimes not and this is should not be considered a particular flaw in methodology but rather the very proof of the limits of my positionality. This positionality as a racialized subject inflects the ways I read, and the points I sought to explore from the different texts explored. Sometimes, some aspects had to be circumnavigated to create a whole that could be intelligible. In this way the project remains incomplete, in need of further reflection, and needing more threads followed. If the idea of multispecies justice is to be pursued, it must be understood for all the ways it will need to reiterate itself, to insist on what Radhakrishnan (2003: 100), drawing from Derrida, would call "the need for a double session that refuses to sever the connection between […] a better future and the ethico-political obligation to redress the injustices of the past, between going forward as a break and the politics of recursive thinking". The future, where multispecies justice lies, is only what we can imagine when we think about all the agents involved.

This research report began with trying to nuance the lives of those involved in the illicit trade of abalone diving. To nuance the terms 'poacher' and 'poaching', I relied on the story of Shuhood Abader. His story and his representation of the trade allowed an understanding of the material ways in which he had to prepare his body and his soul. This was animated by a material need to fulfil the role of a 'provider' for his family after being unable to realise the life he wanted to because of histories of apartheid. Through his story, I explored the ways his narrative technique foregrounded a spatial concern. The narrative technique is one that moves laterally across the land (in terms of his cowboy narrative) and vertically (in terms of how he seeks redemption through hajj). Honing in on his actual interaction with water allowed an understanding of the ocean as bank, as well as what it meant to work in water. Working in

water, Abader and other divers created a multispecies understanding of what it meant to shuck abalone in and out of water, as well as how to dive with sharks. Seeing the ocean as a bank, highlighted the material function of the sea for these individuals involved in this precarious form of labour, although this was not the only way the water was configured. The sea also had a spiritual function, and through this spiritual function an understanding of the sea for various aspects of life emerged. This section relayed a human relation to abalone that centred understanding their flesh in terms of providing sustenance.

In “The Sea as Anti-Plantation”, I demonstrated what I understood as the logic of Homo economicus in relation to the narration of newspaper articles and company videos. Using these sources, I demonstrated how they validated the method of aquafarming sites, whilst producing an image of the sea as inaccessible or inhospitable. The logic of Homo economicus relies on thinking in capitalist terms of profit margins and statistics to convey an idea. In this report that task involved thinking about how the destructive red algal blooms were reported about. Despite being a natural phenomenon, algal blooms were seen in terms of how they hindered government investment in abalone production. This chapter was the first to engage directly with visual representations of abalone, and through these representations the commodification of abalone flesh was made clear. This theme was further reinforced by the ways the nutritional value of abalone was broken down on the company website. Capitalism’s Homo economicus relied on the disaster narrative to relay the gravity of its losses in profit, sometimes relaying false information in the service of this goal. This proclivity was underlined by honing in on the particular sensory experience of sight, but also thinking about how other senses are distilled in water.

The final chapter thought through the abalone-mandrax assemblage, and what emerges through those trade negotiations held between Chinese triads and abalone suppliers. This narrative was explored all while contextualising the history of methaqualone from its speculative uses by the apartheid government (through Project Coast) to its now prominent place as a street-level drug. The chapter begins by showing the particular dangers involved in the scientific objectivity adopted by Morris when thinking about justice, whilst simultaneously thinking about how this objectivity allows for a broader reflection to take place. The history and uses of mandrax by the chemical and biological warfare programme were also speculated on, whilst also thinking about how drug run off could allow for an understanding of South African history from the sea. These themes veered into an understanding of the position of Chinese triads in South Africa, and how they capitalised on the trade of abalone to fund a growing market of abalone consumption in China, Taiwan, and the Asian diaspora. The chapter ends by reflecting on what the endemic is, what needs to be preserved, and what holds our imagination when contemplating issues, such as multispecies environmental justice.

By thinking about the livelihood of both abalone and mandrax, I wanted to ask who and what we should preserve? By zooming into the actual material of both of these, could we think about each as deserving of protection? Early on in the introduction, the study of abalone by scientists for the development of supermaterials is raised in terms of what poaching could mean: does the harvesting of knowledge without consent also count as poaching? I reiterate this study to speculatively link the crystalline structures found in abalone shell, and draw it out to the crystalline structures of mandrax, and even further to the salt found in human bodies. At this level, it becomes hard to differentiate between the different agents, but in many ways this is the world scientific objectivity would have us interact with. And here, in

this world of scientific objectivity, we could not entertain a debate about one element being better than the other, or one arrangement of matter as more complex, all elements being essential to the functioning of the material world. This thought experiment, however, does not recognise the agency of these bodies and that is where the issue begins, an issue of fatalism (where all elements would end up in their rightful place, regardless) without the hope for some kind of life in the future. The sea is the perfect place for reflecting on such questions. In Melody Jue's contemplation on the phrase "wild blue yonder", she says (2020: 3): "'Yonder' suggests that ocean media can be thought of as a horizon of possibility, just beyond our immediate experience but nonetheless part of the fabric and flesh of the world". In ending with this reflection, I seek to think about both the actual material history of the sea and all the different agents that have interacted with this material, as well as the sea as this space where we test out ideas safely away from our more personal terrestrial livelihoods.

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