



Maritorium Biocracy. Climate Atmospheric Design

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ABSTRACT: While the efforts to bring out disregarded knowledge to resolve our toxic exogenous anthropisation are slowly producing innovative environmental pedagogy, the inertia of thinkers, designers, engineers, and politicians towards these ecological dynamics keeps raising doubts about our contemporary priorities. Although many societies have reformulated the exogenous patterns imposed on them, the maritime and terrestrial environments are still being administered according to business models fed on transient history. Surprisingly, unsung biospheres arise from the imperious environmental inquiries sparked by climate deregulation, community displacement, and sea-level rise considerably impacting the cultural landscapes of our planet, Maritories. Damaged, those regions, including their social capitals, which generated our worldwide mobility for millennia, are now considered crippled by Western management models. Also, a better understanding and consideration of these realities in the management of our extended ecosystem is imperative today, such as their ability to resolve climate deregulation, sea-level rise, and community disarray, is undeniable. Due to the overwhelming illiteracy of environmental pedagogy towards these indigenous social ecologies and engineering, Maritorium Biocracy, a series of research design inquiries on the maritime and terrestrial space [i.e., Maritory] dynamics and issues, is committed to changing this situation. Through the following Maritories field survey in Penang, Malaysia; Singapore; Bali, Indonesia; and Ishigaki, Japan, we will attempt to uncover controversies among Indigenous, autochthonous, and exogenous management, the unavowed reasons explaining the replacement of timeless ethics with unsustainable apparatus. Their rejuvenation, as both a symbol and symptom of our ecological awareness, invites us to reconsider the relevance of our future ecological commitment.

KEYWORDS: Maritory; Ecological Democracy; Indigenous Engineering

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I. INTRODUCTION

1.1 OBLIVIOUS OBLIVION MARITORY

The brutality of the current worldwide ecological crises is urging everyone to reconsider the environmental engineering models implemented so far. However, the globalization of the phenomenon does not discourage the use of such models as conditions are layered and confusing. The Built Environment community, who were once stimulated by 20th-century neoliberal ecology (i.e., Sustainable Development) are now struggling to believe in convincing salvatory methods. From such moments of suspension and uncertainty, doubts appear toward a techno-solutionist industry that has seized on crises and distresses to thrive on environmental, spatial, and social injustice.

While eco-societal injustices produced by the environmental imperialism of the 19th and 20th centuries [1] enabled the Terra Nullius myth dismantling [2], Mare Nullius remains challenging to assimilate, as observed with the 2023 Japanese government decision to discharge Fukushima contaminated waters within interconnected oceans. Closing an environmental awareness cycle profoundly uncomfortable for a vast engineering expertise eager to revive 60's fantasies, the stranglehold of marine spaces revives the resurgence of imperialist strategies of exogenous cultures stemming from other ecological ethics and thoughts.

The recent regain of interest in the forgotten, denigrated knowledge of cultural landscapes associating marine and terrestrial environments testifies to the frightened awareness of civilization discovering environmental ethics and ecological practices asleep while it is genuinely more resilient than the so-called green capitalism of the last decades.

1.2 INDIGENOUS AQUEOUS FUTURES

Maritorium Biocracy [3] participates in this movement by investigating indigenous practices, customs, and ethics to envision alternative knowledge to generic, urban centered, and capitalistic models. It consists of a series of research design enquiries into the maritime and terrestrial dialogues and struggles conducted in Penang_Malaysia, Singapore, Bali_Indonesia, Ishigaki_Japan, ChongSan-Do_Korea and Sardinia_Italy. Each iteration is conducted in a specific area through various public and private collaborations with local stakeholders and international partnerships, with the purpose of using innovative pedagogy to better recognize intangible environmental ethics and cultural landscapes. The explorations aim to decipher the ecological construction of these realities and the apparatus of their oblivion; to oppose the recent anthropization and speculative landscapes that appear as soon as their spaces appear profitable for extractivist civilizations.

The initial impetus for this approach was an invitation to engage in multidisciplinary research to better understand the issues surrounding the degradation of the corals of Australia's Great Barrier Reef in the Coral Sea, followed by the mentoring of a young landscape architect interested in marine dynamics. These involvements led me to discover the extent of the ignorance of western landscape architecture disciplines in marine ecology, through critical theories disconnected from biotopes and based on poor and dubious reasoning. Accordingly, an environmental pedagogy was developed within a university framework, and the study of regions and their associated human and non-human communities began [4].

II. SITUATIONS

Recently, the expertise of the built environment has been renewed with alternative agencies to resolve intersecting crises, realising how much educated and privileged experts, through the expansion of Western capitalism through neoliberal policies, have completely denigrated basic ecosophical and immaterial knowledge. Because they are often alien to neo-colonial regimes, these environmental ethics have been erased from our daily lives, leaving a deeply Westernised country like Singapore searching for lost knowledge when it will take several decades to rethink its model.

Sea level rise and climate change, as well as food security, worsened during the Covid period, alerting various regions of severely damaged marine and terrestrial dialogues. Although several societies have reformulated, if not repressed, the exogenous patterns imposed on such fragile dialogic environments, so long forgotten, are managed according to the modes of endless green/community/carbon washing provided by speculative sustainable business models fed on transient history. Surprisingly, unsung biospheres are emerging from the imperious environmental inquiries triggered by climate deregulation, community displacement, and sea level rise that are significantly impacting the cultural landscapes of our planet: the maritoriums. Unsettled, those regions, including their social capitals, that have generated our global mobility for millennia are now considered paralyzed by Western management tactics.

Maritoriums are already the stake of regenerative deployment of territorial environmental ethics in disagreement with their landscape ecology [5]. Community disarray is undeniable, and a better understanding and consideration of these realities in the management of our extended ecosystem is imperative today [6]. Due to the overwhelming illiteracy of environmental pedagogy towards these indigenous social ecologies and engineering, the Maritory Biocracy Initiative is committed to exploring alternative forms of ecological transmission. In order to decipher regenerative, timeless, maritory cultural landscapes, several regions are being studied where various transitional ecologies express different transformative ecosophies.

2.1 Penang Climate Urbanism

Onsite Investigation Jan – Feb 2022 / Sept - Oct 2023

Penang Island, located in the northern part of Malaysia, is undergoing a transitional phase between generic worldwide practices and a regenerative design that has been inherited from the Nūsantara empire [1293-1527] [7]; [8]. The coastal anthropisation of Penang has been significantly impacted by the international trade activities of the Dutch East India Company, resulting in considerable contrast. Human and urban settlements are predominantly concentrated in the eastern region, while the western area is primarily designated for agricultural use. The political ecology of Penang is a product of the 19th-century economic landscape, and its legacy and future prospects remain uncertain [9].

The two areas in question stand as a testament to the vibrant colonial legacy of logistical capitalism along the Malacca Strait. Here, fishing cargos and other products were stored, thereby contributing to the

development of George Town for the English merchants in 1796 and the construction of wooden jetties along the shores for the Chinese community in 1888. In the contemporary era, the eastern shores continue to be highly sought-after by developers, who erect expansive structures associated with the marine biosphere, yet in a manner that merely serves as an ornamental element within a Western environmental aesthetic.

As the Penang-based architect and academic Jestin Nordin notes, a significant concern is the pressure on real estate resulting from substantial coastal developments, such as those observed in Tanjung Bungah, following the reduction in beaches due to the 2004 tsunami [10]. In a neoliberal design philosophy, the occurrence of a "natural disaster" can facilitate capital accumulation [11]. Consequently, these formally transitional valves between maritime and terrestrial biotopes are now unprotected due to the disappearance of fishing customs and practices (Fig. 1). The former coastal maintenance practices, transmitted through indigenous knowledge, are rapidly vanishing. This is further compounded by the absence of innovative "Action Research" from local researchers, academics, and entrepreneurs, despite the contributions of prominent researchers from the Centre for Marine and Coastal Studies (CEMACS).

In the context of latent postcolonialism and the prevailing capitalist hierarchy, the coastal regions, despite their evident peril, are superseded by the colonial heritage restoration of George Town. This endeavour, as elucidated during the discourse with the Penang Think Tank Think City, has garnered a substantial amount of funding. Its urbanism unveils how human settlements, characterised by their unsustainability, can catalyse the neoliberal economy through the prioritisation of green and socialwashing measures. The city's architecture, constructed in accordance with standard, non-climate-adapted designs, is not conducive to habitation by ordinary citizens in a tropical climate. Instead, it is characterised by mass tourism in restored boutique hotels and the presence of the poorest population in abandoned shophouses. In January 2022, in the aftermath of the island-wide lockdown due to the pandemic, George Town resembled a ghost city. This was indicative of a Malay population that appeared indifferent to the city's values. At the time, the island's coastline, with its vibrant fishing villages, appeared to be in close proximity to the necessary elements for the successful implementation of Just Climate Atmospheric Design.

Among the usual myths created by the community of developers, builders and architects to speculate on profitable commodities instead of supporting timeless living conditions is the scarcity of space on the island. Such an attempt justifies the creation of toxic community gates and dense building complexes, while half of the island remains empty. Furthermore, the lack of visibility of the coastal spaces and cultures of an island like Penang is due to the discourse of developers and the absence of marine environmental experts in public policy. The result is a generic environmental pedagogy, supported by the usual suspects of the built environment, towards a neoliberal political ecology that fuels the generic techno-solutionism that Singapore embodies.



Figure 1. Penang Disappearing Fishing Village

2.2 Nusantara Singaporean Commons

Onsite Investigation August – Nov 2022

The Nūsāntara Singaporean Commons Inquiry, a design research studio conducted by the National University of Singapore's Landscape Architecture Department in autumn 2022, sought to re-anchor the island state with its aquatic environment. Since its colonisation by Dutch, British and Chinese settlers, Singapore's relationship with the marine environment has been incredibly denigrated. In terms of indigenous technologies such as foraging, farming and fishing, one aspect of environmental imperialism is how the exogenous culture developed since Chinese settlement in Southeast Asia in the 20th century, with social capital coming from the inner regions of China, has shaped agricultural and urban cultures without any desire to accommodate Nūsāntara environmental diplomacy with its aquatic space, which nevertheless constitutes the island biosphere [12].

Furthermore, the political ecology of the Garden City developed through Lee Kuan Yew's authoritarian governance, which prioritised ornamental environmental aesthetics to attract foreign investors. Contrary to the expected respect for indigenous cultures, all non-profit practices and customs of the custodians were seen as detrimental to the aggressive neoliberalism of the emerging island state. Singapore's post-independence environmental history [13] reveals a fascination with Western environmentalism [14] exacerbated by a condescending Chinese disregard for the Malay and indigenous cultures of the various Orang Laut communities that traditionally live in support of the Nūsāntara cultural landscapes. An entire indigenous culture is disappearing due to the dominance of a nationalist discourse funded and managed by the dominant community. A global economic narrative and philosophy of innovation/beautification/commodification conveyed through a consensual discourse that we could better understand thanks to Orang Laut community advocates Firdaus Sani (Orang Laut SG) and Nor Syazwan Bin Abdul Majid expressing their commitment and desire for cultural recognition.

Given the traumatic stories of entire island communities, such as Pulau Ubin or Pulau Semakau, being brutally relocated to the main island of Singapore, a whole maritime environmental philosophy of caring for these biospheres needs to be reconsidered. This is what educational institutions are beginning to do as they seek to reintroduce maritime knowledge into the heart of an island that had forgotten its anchorage. The recent food crisis, exacerbated by the closure of borders, has finally made people aware of the oddity created by the political ecology led by urban technocrats. With more than 93% of its food imported, it has increasingly supported global imperialism against all social ecology. In the aftermath of the COVID crisis, this has led to a significant loss of local atmospheric design.

The current answer to the reappropriation of marine spaces is the application of intensive aquaculture, as well as the alteration of land and soil of contemporary noxious agriculture [15]. The ability to listen to the eco-semiotics of our environment, dialogue and diplomacy with nature is unfortunately no longer shared or exercised by a market society educated in neoliberal ecosophies (Fig. 2).

While Penang could be proud of the local applied ethics developed by S.M. Mohamed Idris [16], Singapore is burdened with a whole arsenal of neo-liberal ecological thought from the decentred Anglo-Saxon and the mockery of natives sacrifice in the name of globalisation. Although it had great promise, Singapore today turns out to be the result of the pursuit of ultra-liberal ecological thinking obsessed with a speculative market that has now reduced Singapore to a desolate whirlpool, a speculative environment that only its mistreated indigenous population, struggling for recognition, has the capacity to renew and maintain.



Figure 2. Singapore Mare Nullius

2.3 Bali Tri Hita Karana

Onsite Investigation Feb-March 2023

Unlike Singapore, which is deliberately oriented towards the global market society, or Penang, whose identity is being weakened by dangerous economic policies, the island of Bali, in the centre of Indonesia, stands out powerfully for its Hindu ethics as a *vid* intangible heritage, both in the management of its rice fields' hydrology - *subak* - and in its maritime approach. One of the considerable forces behind this capacity to preserve and regenerate a complex environmental ethic is a Balinese philosophy, *Tri Hita Karana*, which shapes every act and gesture of a society in full harmony with its changing environment [17]. As unique as the local ecological philosophy is and remains, this does not prevent Bali from grappling with particularly disturbing urban globalisation and market values. But like Japan, where the 'old & new' adage still prevails today, Bali reveals some fascinating tangible and intangible environmental ethics applied within its biosphere.

Developed at a distance from Indian Hinduism and with the intention of embedding it in Balinese autochthonous custom, the 3 parameters of *Tri Hita Karana*, *parhyangan*, *pawongan* and *palemahan*, express a relationship with man, spirit and nature (translated from Sanskrit *tri* (three), *hita* (benefit, profit, good, welfare) and *karana* (the act of making, producing, effecting)). Beyond the fascinating specificities of Balinese ecosophy, its ritualisation of sacrifice - *yadnya* - seems particularly rich and testifies to its capacity to renew adaptive political ecologies through our current mutations. The relationship with the non-human components of the Balinese environment is conducted through a series of rites towards various protective deities. As expressed by Kadek Edi Saputra, a Balinese landscape architect and academic, 'Balinese people celebrate a variety of rituals related to natural expressions and forces every day of the year. This daily and sacred observance towards an abundant nature induces, implies and explains the vitality of the Balinese environment [18].

Like Penang, Bali has a complex relationship with its coastline. Since pre-Dutch colonisation and 20th century globalisation, settlements have populated its maritime milieu. Despite a degree of poverty in the northern regions, the coasts have not been abandoned to shameless real estate development, with numerous places of worship dotting the shores. While Sanur or Kuta showcase the usual brutal coastal urbanism, otherwise

known as Western design philosophy, the rest of Bali's coastline remains untouched, presenting various shrines-pura of multiple significance.

Tri Hita Karana therefore practises its ethics in both tangible and intangible ways:

tangible in that the daily rituals practised by various members of the communities to ensure that the inhabitants' duties are performed in addition to other tasks take place physically and in open-air temples. The rituals are numerous and varied, and are usually practised in different places. In this way, respect for the marine environment is maintained and its evolution is monitored. This ritualisation seems to be one of the deepest singularities of Balinese environmental ethics, at the heart of the ecological movement, and constantly able to grasp its changes and act accordingly (Fig. 3).

Intangible as the marine biosphere is, it is respected for its physical, climatic and spiritual contribution. It is respected and maintained beyond its simple capacity to provide substantial food for terrestrial populations. In the same way, Balinese ecosophy makes it possible to resonate [19] a distant and often impassable underworld space within earthly actions. This resonance of dialogue with the non-human atmospheric design allowed the population to resume fishing and agricultural rice production in an almost natural way during the COVID period.

The deeply rooted ritualisation of Balinese applied ethics contrasts sharply with the Malaysian *laissez faire* and Anglo-Chinese free market of Singapore, whose bioregionalism would be hard to imagine in a few years' time. To appreciate the resilience and resonance of Balinese Hinduism, the condition of Ishigaki Island, on the border of Southeast Asia, is helpful in resituating the maritory dynamics in our migrating cultural landscapes.



Figure 3. Balinese Maritime Applied Ethics

2.4 Ishigakijima Kukan No Rireki Onsite Investigation March 2023

The Ishigakijima Kukan No Rireki research project, which took place on the island of Ishigaki in the Japanese archipelago of Okinawa, was organised as a residency [20] around a number of research themes in a peculiar Japanese cultural landscape.

Located near Taiwan, Ishigaki is one of the most remote islands from mainland Japan (Honshu). Despite the difficulties of grasping indigenous cultures within contemporary settlement as a result of Nippon imperialism, and the lack of fruitful geopolitical debate about the nation's conflicted history, it is the regional renewal of ancient cultural practices associated with their maritory that is most troubling and leads to a rethinking of the assumptions of our land-sea dialogue. Local environmental ethics are both fundamentally rooted in a local tradition and particularly revealing of the contemporary upheaval of Japan's unique social ecology.

Ishigaki City, despite the upheaval since the opening of its new airport in 2013, remains very quiet, with a very discreet social life away from the densely urbanised city centre. The gap between road infrastructure, facilities perfectly adapted to current needs and an extremely introverted or even non-existent social life is a peculiarity of the island. Added to this is the wise, bold and fair management of the natural and social spaces, both terrestrial and marine, deeply adapted to the desired sustainability of these newly settled exogenous inhabitants.

The social ecology study of the Ibaruma, Kuura and Nosoko areas showed that the isolation of the island, its attachment to Japanese Shinto culture and its ritualisation created an autonomous and appropriate culture perfectly suited to support its ecological transition. Similarly to Balinese environmental ethics, the ritualisation of customs and practices helps to understand this dynamic sustainable biosphere. It is a particular and similar feature of Balinese and Japanese culture to perform regular rituals in the open air, which also take into account the evolution of atmospheric design.

Without mentioning the outcasts, the local population has been settled since a migratory wave of prisoners and slaves at the beginning of the 20th century, as well as new arrivals fleeing the current social pressures in mainland Japan, all of whom have a desire for a life anchored in the environment. What emerges is an extraordinary autonomy of vision and understanding of what the human and non-human environment can offer beyond generic imports. Civil society presents a deep and knowledgeable relationship with the capacity of their community to meet their needs.

Between a limited port connection around the city, a few scattered villages to the east and west, and a protected park to the north, the coasts are particularly well preserved and carefully maintained [21]. Restoration, foraging and recreation demonstrate a very precise and respectful understanding of biological life. As on the Japanese mainland, respecting tradition while embracing new techniques, the people of Ishigaki live in full harmony with their environment, without naivety, welcoming with interest the foreign gaze of an emerging global ecological consciousness, while already having a 'landscape life' from a unique Japanese environmental education.

Remote, welcoming a singular and endearing population, Ishigaki, like Bali, demonstrates that a land/sea relationship can be developed within the contemporary economies outside of the speculative environment planning (Penang) and neo-colonial policies (Singapore) and that the cultural landscape is a matter of environmental pedagogy [22] from timeless and updated rituals to grasp the ecological transitions of our environments.



Figure 4. Ishigaki Regenerative Boat Design

III. PROSPECTIVES

In these various field surveys, the diagnoses are very different, and the settlement or management of marine areas and their anchorage to the land depends as much on their living applied ethics as on their geographical, climatic, and social specificity. The aim of this study is not so much to make a diagnosis of the complex situation linked to the maritimes but to update what allows their sustainability from local environmental ethics.

Penang's slow ecological transition allows the island to potentially offer a remarkable example of sustainable climate urbanism to other regions misled into inappropriate and unjust exogenous ecocide practices. The transmission of its culinary knowledge needs to be extended to its maritime anchorage. A very popular tourist destination, unfortunately concentrated around the sustainability of a questionable neo-colonial heritage, the revitalisation of fishing villages and their connection to an agricultural fabric should be a priority of government communication design and policy, as it represents the self-managed biosphere of the island.

The drifts that many have warned about are ending in the complete "Dubai-ing" of Singapore: planning of the territory and communities entirely on the model of the Western social ecology that is responsible for our Anthropocene. A contempt adorns the political correctness of integration into an urban, terrestrial and imperialist (Chinese and Western) way of life under the guise of Nūsāntara ontologies. Today, the food crisis and insecurity, exacerbated during the COVID, has led to an urgent need for experts in the maritime sciences. The complex knowledge of ecological democracy embodied by the indigenous peoples of Orang Pulau cultures, who have monitored this environment for centuries, now expects to be at the forefront of ecological policy [23].

The singularity of Bali embodies the advocacy of the 'sustainable biosphere' [24], which counterbalances the neoliberal Protestant ecology of sustainable development. Despite a libertarian state capitalist real estate economy comparable to Manhattan, the daily lives of the inhabitants and their relationship to their maritime and terrestrial spaces have fostered a timeless design philosophy that should teach us about intersecting crises. The relationship between land and sea in Bali is not fundamentally different from that in Penang. However, the pursuit of customs and practices of respect and listening to the modulations of a changing

nature prevents it from falling into the trap of dependence on product exports and exogenous ethics. It is the strength and stability of its identity, not its rejection and protectionism, that makes it a healthy and exemplary ecosystem.

Finally, Ishigaki testifies to a capacity in the 19th century for the vitality of an assumed and serene climatic atmospheric design. It is a place where the globalisation of knowledge strengthens ecological awareness without destabilising it; where conscientiously used contemporary conveniences do not replace a harmonious life in the countryside; where the sea, the land and their design diplomacy [25] reveal complex environmental humanities full of resources (psychology, history, environmental anthropology) that contemporary economic speculation does not alter but enriches.

Maritorium Biocracy attempts to provide an overview of little-known environmental design by establishing the political philosophy of landscape, identifying the cog of bioregional generation, and deciphering the degeneration of the intangible heritage that sometimes supplants, regenerates, or ignores contemporary neoliberal ecological politics. The whole challenge of observing such custodian heuristics [26] is to generate knowledge that corporate universities and their market-driven pedagogy conscientiously evade. Active applied environmental ethics tends to prove that our Anthropocene is nothing more than an uncomfortable moment.

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