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Operation Summer Care: territories of the stewardship-hospitality complex

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To my father

Abstract

Operation Summer Care studies the expanding interest that the hospitality industry takes in the biogeophysical environment. Natural surroundings have long been an essential operational precondition of tourism in the global sunbelt, but contemporary environmental anxieties increasingly motivate different strata of hosts to take a more active role in environmental management. Usually the domain of the state, biogeophysical entities and their spaces—plants and animals, sand formations, wetlands, entire ecosystems and protected areas—are measured, ordered, and managed by actors adjacent to the tourism industry. At the same time, the socio-technical mechanisms of environmental intervention and calculation are conveniently framed as practices of care and stewardship for the shared infrastructures of the summer. Attending to both these tendencies, the project examines how, and through which narratives, the hospitality industry overlaps with environmental science and management to create the conditions for a calculative governance of the biogeophysical. The apparatus of this relatively novel and evolving entanglement between the tourism industry and environmental management—one that involves not just hotels, operators, and tourists, but also municipalities, NGOs, civilian associations, research institutes, activists, awards, standards, and new technologies—is what I call the *stewardship-hospitality complex*. To understand the phenomenon, I review three empirical cases in Greece, in which the techno-scientific apparatus of environmental calculation mixes with fables of both paradisic quiescence and planetary stewardship: a popular eco-certification scheme for beaches, the environmental management practices of a large hospitality corporation, and an island municipality's responses to geologic events. In all three cases I show how stewardship and hospitality weave into each other, strengthening both the moral and infrastructural apparatus of tourism in the global sunbelt. Amidst the interrelated imaginaries of ecological collapse and Anthropocenic care, environmental stewardship is presented as yet another benefit that tourism can offer. As a result, not only is the identity of "the host" infused with imaginaries of "the environmental steward," but also coastal natures are fixed with tourism, as their organization and priorities are defined through the programs of human leisure.

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Introduction

Operational Care for the Infrastructures of the Summer

Tracing a line in the air with his finger, Telis pointed to the prevailing sea currents that transfer the sand from west to east: “After the coastal interventions made by the hotels, this eastern part of the shore is at times left with no sand” he explained. Telis runs a small business with a cafeteria and a taverna right at the seafront, and has acquired the rights to manage part of the beach in front of his business for this year’s season. We met during the summer of 2021 in Stalida, in the central part of northern Crete, one of the most intensified fronts of mass sea-and-sun tourism of the island. Over the past five years, the environmental intervention practices of two high-end hotels have provoked the reaction of local communities, as they seem to have repercussions elsewhere along the coast. Coastline engineering interventions—some implemented without legal permission and prior environmental assessment—have created new enclosures and artificial beachfronts at the stretch in front of those hotels, after which concerned citizens and journalists have noted a rapid reduction of sand and profiles on the beaches further east.[1] This narrative directly contradicts that of the hotels, which boast for their environmental awards and for their commitment to the “protection of the beach” in their websites. According to its sustainability report, one of the two proclaims it is “an award-winning, Eco-friendly resort committed to sustainable Tourism and environmental Conservation.” It is “committed to creating an ‘environmental culture’ in all [its] establishments,” and “cooperate with neighboring agencies with the common aim of preserving the natural beauty of the area."[2] Eco-certifications, beach cleaning initiatives, and environmental assessment of operations are cited as proof of this commitment. Their "neighbors" however, are less convinced about these claims over protection, environmental culture, and cooperation: In a lengthy local newspaper article under the title "The battle over sand", a neighboring small-hotel owner complains that under the circumstances of the degraded beachfronts, small businesses are indirectly "stripped of their right to operate."[3] As Telis put it in our conversation, after the latest interventions, the beaches a couple of kilometers to the east were only left with pebbles and rocks; without sand, "they could not function in the same way they used to."

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[1] Dionellis, “Η μάχη της άμμου στη Σταλίδα,” 2018.

At the other end of the country, in Northern Greece, one of the oldest and largest resorts in Halkidiki has also recently attracted the attention of the press over its environmental management practices—though in what appears to be a less conflictual encounter than the previous. The resort, comprised of five five-star hotels, "sits at the intersection of three beautiful, natural worlds: the sea, forest and wetlands": located within a 1,000-acre coastal forested nature reserve, it features 7 km of sandy beaches and 270 acres of wetlands, in what is the habitat of more than 225 species of birds, many of which rare and endangered.[4] This wetland was drained for both agricultural and touristic expansion in the early postwar years, but the tourism industry now values it differently.[5] Since the late 2000s, the resort has implemented a wildlife monitoring and wetland conservation program in collaboration with the Hellenic Ornithological Society. Through public programs for schools, eco-excursions, and festivals, the diverse ecosystem is opened up to visitors. In collaboration with a marine conservation organization the hotel also sponsors the documentation of marine mammal species in the area. But most of the public attention was attracted by another initiative, their Zero Carbon Footprint project, according to which the resort became "carbon neutral" in 2020, by using electricity only from renewable sources and offsetting its carbon footprint through credits. As the CEO of the hospitality organization announced, the next milestone will be their "own offsetting project in the … wetlands, so that any remaining offsetting [they] need to engage in, such as for airport transfers for guests, will fund measures to help the local biodiversity."[6] In 2022 they were awarded the "World's Leading Luxury Green Resort" at the World Travel Awards for third consecutive year and as their website and sustainability documents boldly state: "[we are] deeply committed to preserving this environment and its rich mix of wildlife … so that guests can experience the natural wonder of [the area] for years to come. … Sustainability is our responsibility."

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[2] Nana Golden Beach, Sustainability Report, 2022; See also: https://www.nanagoldenbeach.gr/pages/our-committment.

[3] Dionellis, "Η μάχη της άμμου στη Σταλίδα," 2018.

[4] Sani Ikos Group, ESG Report, 2021. See also: https://sani-resort.com/sustainability.

[5] See: Lilimpaki & Papaggelos, *Οι Υγρότοποι της Χαλκιδικής από Ιστορικό-Αρχαιολογική Άποψη*, 1995.

While these are just two of the countless stories that the realities of tourism in Greece have to tell, what they begin to reveal is how different assemblages of hosts all "care" for their surroundings. "Caring" was illustrated in the vignettes in both the senses of its definition: "being concerned, taking interest" and "taking action towards maintenance and protection."[7] But the examples also illustrate how this practice of caring for the environment can be a slippery one. Within the frame of an expanded, yet differentially understood responsibility for the environment, and obviously under varying means, motivations, ends, and ethico-political agendas, large-scale projects of "housekeeping" are apparently at play. Some thirty years ago, feminist Science and Technology Studies (STS) scholar Donna Haraway opened her inquiry of sexuality in primate studies by asking: "How are love, power, and science intertwined in the constructions of nature? …" and "what forms does the love of nature take in particular historical moments?"[8] If we were to substitute the word "love" for "care" and to situate the enquiry in the particular socioeconomic geographies of intense "sea and sun" tourism in the Eastern Mediterranean of the early 21st century, these questions provide a fitting entry point for my project as well: I study how various aspects of the tourism and hospitality industries become involved with environmental governance, management, and science, and how this entanglement functions through a narrative of care and protection to shape nature in both material and conceptual ways. In other words, I am interested in the hyperbolic ways in which tourism utilizes and weaponizes such "love of nature" to construct the biogeophysics of tourism.

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[6] Hill, "The Endeavor To Become Greece's First Zero Carbon Resort," 2021.

[7] As is expected, phrasings differ among dictionaries, but these are two frequently occurring instances in the definition of the verb "to care"—when it does not refer to persons. See the Oxford Learners Dictionary and The Brittanica Dictionary.

Operational care and the stewardship-hospitality complex

If the sustainable turn of tourism is a relatively recent development, the repositioning of the hosts as guardians of their marketed environments is even more recent.[9] In this ongoing trajectory, new, complex relationships are shaped—antagonistic or synergetic—, new territories are made, new narratives are invoked, and new imaginaries are forged. The socio-technical mechanisms of the tourism industry are reoriented and conveniently reframed as practices of care for the landscapes that constitute the "infrastructures of the summer." During my fieldwork in the summer of 2022, and in different places in Greece, many of my interlocutors—all of whom were hosts of some kind involved in the country's great industry—repeatedly brought up their role, or even duty, to protect and take care of the land, the waters, or generally, aspects of the biogeophysical environment. They used words such as "protection" or "guardianship" (προστασία), "care" (φροντίδα), and "stewardship" (τοποτήρηση). My project studies this expanding and intensifying interest that different strata of hosts take in the environment, both broadly conceived—as in climate change/ global environment—and in the sense of the specific biogeophysical realm of the immediate surroundings ordered for the visitors' pleasure. The apparatus of this relatively novel and evolving relationship, one that involves not just hotels, operators, and tourists, but also municipalities, NGOs, civilian associations, research institutes, activists, awards, standards, and new technologies is what I call the *stewardship-hospitality complex*. Although my focus will be on instances found in Greece, this discussion reverberates further away from the Eastern Mediterranean to many other tourismscapes of the global sunbelt.[10]

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[8] Haraway, *Primate Visions*, 1989: 1.

[9] For an account on the emergence and still incomplete uptake of sustainability in tourism see: Buckley, "Sustainable Tourism," 2012.

The type of "care" that the stewardship-hospitality complex begets is *operational*. It is about an interest of instrumental quality, that turns to the biogeophysical surroundings of tourism spaces as critical infrastructures that need to function efficiently and unfailingly. No matter the intentions of each of the actors in the stories above, operational care means that Telis and the hotel managers in Crete worried as to whether the beach will be sandy and soft *enough* to be enjoyed by bathers; and it means that the Halkidiki resort took interest in whether the wetland will be pristine and biodiverse *enough* to be visited by excursionists. Especially shorelines and beachfronts, but also wetlands, parks and forests are of paramount importance for the workings of the global sunbelt: Indeed for the "sea and sun" typology of leisurescapes, "the beach" and its surroundings are themselves the marketed products. As are the wild species of flora and fauna in the tourismscapes of the tropics. The imaginary construction of the beach or of the wetlands and wildlife hotspots and their embeddedness in narratives of escapism or exoticism is undoubtedly an important part of their rendering. But the operational realm does extend to other, technical and material registers which this research is more interested in: the enclosures, material transfers, coastal engineerings, certification protocols, science funding and findings, environmental reparations, and programming formulas. These are the socio-technical mechanisms that are put to place to create, monitor, order, enhance, manage, and maintain the grounds and natures of tourism in order for them to become and remain operational in relation to a specific program defined by the tourism industry.

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[10] For an unpacking of the terms "leisurescapes" and "global sunbelt" in a socio-historical context, see: Bozdogan et al, *Coastal Architecture and Politics of* Tourism, 2022. Similarly, for the term "tourismscapes" see: van der Duim, "Tourismscapes," 2007.

The stewardship-hospitality complex emerges at the intersection of two ongoing developments: the tourism industry's expansion on the one hand, and the gradual intensification of environmental concerns on the other. Starting from the second, the contemporary anxiety over environmental degradation—at least in the western mind—has been a powerfully motivating factor. The looming conditions of biodiversity collapse, climate change, and sea level rise are paired with concerns of overdevelopment and resource scarcity to paint a grim picture for the future of a tourism industry that depends on its organic and inorganic material surroundings. As the country's prime minister Kyriakos Mitsotakis put it in the 2019 UN climate summit, "Greece's economic future is tethered to its ability to protect its unique natural environment. Rising sea levels threaten our coasts and islands"—a statement that implicitly points to the operational importance of "coasts and islands" for the leading economic sector in the country.[11] Tourism is a natural resources-intensive industry, while it is also an activity "unnecessary" in the modern sense: unproductive and frivolous. The profligacy associated with pleasure-traveling in the eras of mass, hedonistic tourism is steadily rendered obsolete, giving rise to the vague constellations of "sustainable tourism." In this frame, eco-anxieties are expressed and acted upon in both sides of the hosts-visitors dyad: On the one side, tourists become not only more interested in alternative forms of travel, but also more conscious of the repercussions of their travel habits, seeking out opportunities to alleviate these costs through carbon offsets, donations, or even voluntary labor. From their side, hosts and tourism providers variously share and respond to these concerns. Although empty declarations and greenwashing are definitely part of the image, there is also a proliferation of new products, compatible to the new sensibilities, as well as an active participation in programs and projects, such as eco-certification, footprint-monitoring, conservation, and research. Importantly, this is not only motivated by the markets, but also incentivized by government funding programs or pressure from the civil society.

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[11] "Ομιλία του Πρωθυπουργού Κυριάκου Μητσοτάκη στη Σύνοδο Κορυφής για το Κλίμα," 9/23/2019. https://primeminister.gr/2019/09/23/22241.

In parallel—and to a point counter-intuitively—the tourism industry is only growing. From 2010 up to the Covid-19 pandemic the growth rate of the Travel and Tourism sector was steadily higher than that of the global economy. The number of people traveling, the number of jobs generated within or by the industry, and the total GDP contribution of the sector all steadily rose in this period. Beyond the pandemic losses—which now appear as only a brief parenthesis—the World Travel and Tourism Council expects that the sector will keep growing in an average rate almost double that of the global economy.[12] Among the many implications of this continuous growth, one is that historically developed sites of tourism, especially those pertaining to the sea and sand model, have become saturated. The first of the two stories I recounted in my opening above comes from such a place in Crete. Amidst these overburdened landscapes, the stakes over the biogeophysical environments become even greater and, as was illustrated above, tensions are quick to arise. But another repercussion of this is that hosts are searching for and exploring new sites, previously undeveloped, pristine and "wild," to run their hospitality operations. In Greece, after a decade of relative stagnation during the country's so-called economic recession (2008~2017), Domestic and Foreign Direct Investments in tourism climbed back high, reflating the investment interest around the recently introduced concept of large-scale Integrated Tourism Development Areas—zones of exception for tourism programs—which have tended to target such undeveloped areas, and with a specific interest towards protected areas and sites of ecological significance.

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[12] WTTC, Travel & Tourism Economic Impact, 2022; UNWTO, Tourism Dashboard, 2023.

Emerging at this nexus of expansion and eco-stress, the stewardship-hospitality complex may speak to and may be related with the phenomena of sustainable tourism and eco-tourism, but it is not identical to them. Actually, as Chapter 2 suggests and Chapter 3 speculates, it helps reshape "tourism" as we know it, in ways that new analytical tools will be needed to approach it: it anticipates turns in tourism that are currently underway, itself transforming the industry away from what "modern tourism" has been associated with since its interwar invention and postwar proliferation. The stewardship-hospitality complex describes a more complex constellation than the "green" or "environmentally sensitive" practices of hotels, tourism operators, and host authorities. For example the concept takes under it's umbrella activities that may not be directly considered "stewardship," or may not be directly associated with "tourism" and "hospitality," but are still meaningfully analyzed through the complex. Let me give an example. STS and human-animal relations scholar Juno Salazar Parreñas studied cases of volunteerism in wildlife rehabilitation in Thailand and Malaysia. The participants-volunteers in her ethnographic study all travelled from the Global North to end up cleaning bodily excrements of elephants, sun bears and orangutans in the Global South. What they do, Parreñas maintains, "are not acts of stewardship" as "they are not attempts at technical and managerial control," but rather they are a kind of intimate custodial labor.[13] At the same time, the sanctuaries she documents are not directly in the business of tourism—although many of their employees have studied "tourism and hotel studies" and they refer to the volunteer-participants as "tourists" and to the experience as "ecotourism."[14] Despite the incongruities, I argue that the stewardship-hospitality complex is at play here, because a mechanism of systemic care has been assembled and is lubricated by and towards a series of incoming mobile foreigners. Even if what these individuals do is relatively trivial, their cumulative effort as streamlined through the organizations and sanctuaries they work for is elevated to a stewardship apparatus.[15] Zooming out of this particular example, what I want to emphasize is that the stewardship-hospitality complex may not be expressed explicitly through stewardship or via the hospitality industry, but does entail either or both a *culture of hosting* and a *culture of stewarding*.

Both stewardship and hospitality present themselves through words of undisputed positive connotations, invoking a benevolence of scope that feels irresistible. "Care" is a constitutive concept for both, while in the context of the climate and biodiversity emergencies, associated concepts such as "reparation" and "nurturing," glossed with their positive power, come to lubricate discussions on the production of space, priorities, values, and politics. Within this trend, scholars from STS and anthropology have recently turned their attention to matters of care in its various instantiations. Anthropologists and sociologists Aryn Martin, Natasha Myers, and Ana Viseu, writing the introduction to a special issue on the politics of care in technoscience for the *Social Studies of Science*, emphasized that while care is often treated in a romantic and laudatory manner, "thinking with care … requires attention to the ambivalent rhetorics and practices taken up in its name."[16] Care has a dark side, associated with its institutional embeddedness, its history, and the violence committed in its name. The co-authors unpack three ways that foreground the complex politics of the concept: First, care is selective: it means choosing something over somethings else. Second, care makes evident asymmetries in power: someone retains the power to care over someone else who is cared after and who may be rendered weaker in accepting to receive it. And third, practices of care are essentially practices of governance, assuming classifications, disciplining, and ordering of bodies.[17] Moreover, in her contribution to the issue, feminist historian Michelle Murphy focuses on the colonial and capitalist histories in which practices of care have been embroiled in and are appropriated through. She argues that these histories must be exposed in order to challenge the reflexive positive disposition of care and "situate affection, attention, attachment, intimacy, feelings, healing, and responsibility as non-innocent circulating orientations within larger non-innocent formations, instead of as attributes of individual scientists or feminists."[18] That is, as those and other commentators have agreed, there is a need to dissect how care operates in its specific sociotechnical contexts. Aryn Martin and her colleagues suggest a program of critical care scholarship that

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[13] Parreñas, "The Materiality of Intimacy in Wildlife Rehabilitation," 2016: 103.

[14] Parreñas, "The Materiality of Intimacy in Wildlife Rehabilitation," 2016: 106, 116.

[15] In this example it is also worth noting that the stewardship-hospitality complex is self-lubricating, engaging in a sort of positive feedback loop: Parreñas observes that "Southeast Asian elephant sanctuaries and wildlife centers are made possible only through commercialism," where by commercial volunteerism is used by the author as a synonym to volunteer tourism. Parreñas, "The Materiality of Intimacy in Wildlife Rehabilitation," 2016: 109.

> "would insist on paying attention to the privileged position of the caring subject, wary of who has the power to care, and who or what tends to get designated the proper or improper objects of care. This could take the form, for example, of examining neoliberal formulations that attempt to codify, standardize, prescribe, or commoditize care."

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[16] Martin et al, "The politics of Care in Technoscience," 2015: 630.

[17] Martin et al, "The politics of Care in Technoscience," 2015: 627.

[18] Murphy, "Unsettling Care," 2015: 722.

This is one body of work that I wish to contribute to, and this last sentence perfectly frames the practices of the stewardship-hospitality complex: a neoliberal formulations that standardizes, prescribes and commoditizes *environmental* care in the context of tourism.

From the tripartite observation of Martin and colleagues I recited above, I am especially interested in the third one: practices of care as governance of bodies. But I think of "bodies" here in an expanded sense: not just human bodies, but also non-human bodies, and bodies of land. The existing critical literature on care within technoscientific practices mainly revolves around human bodies that most times result in a very human-centric, affective, and intimacy-oriented readings of care.[19] This also frequently privileges an attention to practices "from below," leaving instances of institutional, large-scale, systematic care out of the image. In contrast, here I am interested in the tourism-related systematized efforts for care towards those non-human, and not always "living" entities: plants, animals, wetlands, and stones.

One of my arguments will be that through its invocations of care, the stewardship-hospitality complex produces territory, in the sense of governance mechanisms that order the biogeophysical terrain. Reordering natures does not only remake place and landscape, but also reconstitutes territory—in the sense of an area over which rights are granted and power is exerted. Territory and territoriality are often considered in relation to borders, armed conflict, or property rights, making it counter-intuitive, or seemingly trivial, to use the concepts to understand practices of environmental control—and even more in contexts of seemingly non-conflictual leisurescapes such as those of tourism natures I am looking at. But for an expansive industry that absorbs vast landscapes within its workings and effectively becomes a dominating monoculture in countries of the global sunbelt such as Greece (and arguably even more in the Global South), the “war” is played out as unspectacular programatic expansion over territory. The seemingly benevolent frames of care and responsibility become the justification for not only land accumulation and consolidation, but also for extensive environmental management, monitoring and calculation—forms of territorial capture.

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[19] There are of course exceptions. For example, Puig de la Bellacasa has studied practices of care for the earth in soil sciences or in more-than-human ecologies. But the persistence of intimacy and bodily-oriented practices to study care is evident even in cases where the focus is on animals, such as the instance of Salazar Parreñas's 2016 study on wild animal rehabilitation centers I discussed above. See de la Bellacasa, *Matters of Care*, 2017.

But what kind of territory is this? The shifting sands that Telis traced with his finger were not a matter of property; eco-certifications have nothing to do with ownership; and the monitoring of wetlands and birds under corporate responsibility programs complicate legal demarcations. I will explore this question at greater length in the following Interlude chapter, but let me point out here a foundational distinction that guides the present work. Political geographer and intellectual historian Stuart Elden distinguishes between two of the partial renderings of territory, what he calls “land” and what he calls “terrain.” The land refers to a political-economic understanding of territory through property, in which the land is a commodity to be traded and expropriated. On the other hand, the terrain refers to the articulation of the physical site, in a rather strategic-political sense, bringing forth a type of managerial and calculative control through logistics and administration.[20] It is this latter sense of territory that will be central to my investigation. To be sure, the machineries of tourism rework all aspects of territory. However, I find that the matters surrounding the terrain and its technics have received less descriptive and interpretive attention, despite the fact that it is them that are deployed and reordered through the socio-technical mechanisms of tourism natures I referred to in the opening examples. According to Elden, the view of territory as land, rendered through property and rent and regulated through what the Marxist-Lefebvrian tradition has conceptualized as the "land-capital-labour" triad, is so dominant that it overshadows the other aspects of territory. He quotes urban and political geographer Edward Soja to affirm that: "Conventional Western perspectives on spatial organization are powerfully shaped by the concept of property, in which pieces of territory are viewed as 'commodities' capable of being bought, sold, or exchanged at the market place."[21]

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[20] Elden, “Land, Terrain, Territory,” 2010. For a more complete overview refer to the Interlude: “The Environment Must be Defended.”

Theory and practice in Greece follows that observation: issues of ownership and legal demarcation are at the center of contemporary discussions, especially with regards to the beach, the coast, and the European Natura 2000 protected areas. Tens of activist organizations are fighting against encroachment and for a publicly accessible coast, while planners are meticulously following and critiquing the legal-spatial tools that define the coastal territory. And they do so for good reasons: in its post war history, the coast has been a register of financial value through the built environment, while more recently, during the long economic recession in the country, the state is liquidating coastal lands through the Hellenic Republic Asset Development Fund and other mechanisms. However, the technics, protocols, and networks that this is happening through—the ways in which these are reflected and inscribed upon the terrain—are less studied. Thus, this research takes seriously Elden's suggestion that the terrain should be approached as a process, thus breaking from its current static rendering as topography or geomorphology. Besides, as Elden asserts, the terrain is where "the geopolitical and the geophysical meet," making it "the best concept we have for understanding the political materiality of territory ."[22]

Greece appears to be a fitting place to study the stewardship-hospitality complex. On the one hand, the country has a long and persistent history with the tourism and hospitality industry. Similarly to the other European countries of the north Mediterranean coast, Greece has pioneered and served as an important part of the recreation-related global sunbelt. Although the sights and landscapes of the country were visited for cultural and therapeutic reasons in the late 19th century, the beginnings of the 20th, and the interwar period, it was not until the rise of mass tourism in the 1950s and 1960s that Greece also started accommodating large-scale movements of holidaymakers.[23] Tourism has been essential for the country's postwar reconstruction, catalyzing the process of modernization in terms of GDP growth, creation of infrastructures, tertiarization of the economy, and urbanization of the countryside.[24] Following this postwar phase and a seven-year military junta, the reinstated greek democratic state continues to build upon and with the tourism industry. This evolution had been persistently upward, with brief stasis intervals right after the 2008 eurocrisis and during the Covid-19 pandemic: what has grown to be one of the largest industries in the world in terms of global capital circulation, regularly contributes one forth of the greek GDP—which is one of the highest percentages in the world.[25]

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[21] Soja, *The political organization of space*, 1971: 9; quoted in Elden, "Land, Terrain, Territory," 2010: 805.

[22] The first part of the quote from: Elden, "Legal terrain—the political materiality of territory," 2017: 223. The second part of the quote from Elden, "Terrain, Politics, History," 2021: 177.

On the other hand, this hospitality is to a large degree dependent upon the biogeophysical environment. Throughout this development, Greece's main product has been organized first around spas and spring waters, and later around the "sea and sand" model, marketing its 3,000 sunny hours per year, the Aegean and Ionian archipelagos, and the variously colored coastlines—that is, the biogeophysical surroundings. Although the archaeological sites, cultural heritage, a sense of a "less developed" country at the "margins of Europe," and the country's affordability have all contributed to the making of the destination, it is the diversity of the landscape, the particularly long coastline, the several thousands islands, and—first and foremost—the beach that now carry out the heavy fulfillment process of the pleasure imaginary.[26] The "hosts" become increasingly aware of this dependency and of the inherently contradictory nature of this type of tourism product: the more it is "sold," the more it is degraded. Besides the prime minister's concern for the country's coasts and islands in the face of climate change that I quoted above, many have expressed their worries or have taken action to protect these environments-as-products. The scholarly and policy discourse on destination carrying capacity, which in Greece emerged at least since the 1990s, is one case in point.[27]

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[23] Dritsas, "Water, Culture, and Leisure," 2002. For the relationship between the greek turn towards mass sea-and-sand tourism and the Marshal Plan, see Alifragkis & Athanassiou, "Educating Greece in Modernity," 2013.

[24] Nikolakakis, *Μοντέρνα Κίρκη*, 2017.

[25] UNWTO, "World Tourism Highlights," 2018.

For my study of the stewardship-hospitality complex in Greece, "the beach" has been a starting point, and still holds a central place: In Chapters 1 and 3, two out of the three case studies revolve around it. This is not only because so much has been invested in its myriad representations in the "sea and sun" model—by both the sides of visitors and hosts—but also because, in a rather literal way, it accommodates bodies and facilitates programatic activities.[28] Indeed, a 2014 planning regulation law for the greater Athens metropolitan area, which includes the "Athens riviera", refers to the thin strip at the shore as a “critical zone of public interest.”[29] Yet, the effect of the beach and the coast reverberates beyond the land-sea interface, to influence rather wider areas. In the same planning regulation, these are referred to as “wider zones of coastal influence /dynamic zones” and may include real-estate developments, hotel and recreation dedicated zones, protected sites etc. Subsequently, the beach is largely the driving force shaping the coastal terrain as an expanded operational hinterland of the realities of tourism. At the same time, ecology and environmental science approach the coastal zone as the narrow transitional territory that connects terrestrial and marine environments, and that may extend some kilometers inland and offshore depending on the specific ecosystem. Thus, and although the beach retains a significant position in this project, I am interested in the more expansive and complex space of the coastal, opening up the investigation to territorial products such as real-estate projects, territorial enclaves, and protected areas that may or may not be explicitly about the beach. Chapter 2 is invested in these wider repercussions beyond the beach.

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[26] Nikolakakis, *Μοντέρνα Κίρκη*, 2017; Dritsas, "Water, Culture, and Leisure," 2002; Herzfeld, *Anthropology through the Looking-Glass*, 1987.

[27] Briassioulis & van der Straaten, *Tourism and the environment*, 1992. In Chapter 3 I discuss the concept of carrying capacity and its relationship to tourism in greater detail.

[28] What makes a focus on the beach relevant today? Given its postwar trajectory, the "sea and sun" typology of tourism and its relation to the beach not only is it not a new thing, but to the contrary, it is almost obsolete, at least in its mass forms. The concern for a strategic restructuring of the sea and sun destinations towards more diversified models and individually tailored experiences has been discussed for more than two decades in the different contexts around the world where this is relevant, from the Caribbean, to Polynesia, to the Mediterranean. Even more significantly, climate change research has pointed to the rising seas and the intensified coastal erosion, which both endanger the beach and its future. The above would suggest a turn away from the coast or a decline in its significance: Around the turn of the 2000s, work on tourism theory and management projected a decline of the sea and sun product, and an ensuing fall of coastal destinations if not restructured. Nevertheless, the beach as a material form and a signifier of pleasure escapism still holds. The three-S's model reinvents its new-old self in established and upcoming destinations, the sand nations of southeast Asia export the precious grains and support massive artificial constructions of beachfronts in their regions, while Florida and the Caribbean nations push back against erosion with expensive nourishment and maintenance schemes. See Aguilo et al, "The persistence of the sun and sand tourism model," 2005; Vousdoukas et al, "Sandy coastlines under threat of erosion," 2020; Knowles & Curtis, "The market viability of European mass tourist destinations." 1999.

A counterintuitive alliance, creating priorities and territory

The coalition formed between the tourism industry and environmental management and stewardship is not only relatively recent, but its emergence is also counter-intuitive. Traces of this history can be found in the subset relationship that is between tourism and environmental science. In the past, environmental research and tourism have been accidentally overlapping.[30] Historians of science, in their exploration of the border practices between laboratory and field science in biology, have identified marine biology stations near coastal towns and resorts to be places where scientists would combine research and summer holidays in the late 19th and early 20th centuries.[31] Raf de Bont studies two cases of such scientific stations, one in Naples, Italy, and one in Wimereux, France, where their resident biologists had mixed feelings about the potential of leisurely neighbors and tourist activities near them. Alfred Giard, the founder of the station in Wimereux, chose the place because it is quiet and unspoiled by the activities of tourists. He is quoted by de Bont to say: "The absence of a seaside resort and the want of a luxury hotel makes Wimereux free from this loafing and unhealthy population whose idle curiosity is so annoying for researchers residing in seaports which are more fashionable and more renowned." He was referring to stations such as his colleague's, Anton Dohrn, near Naples. Dohrn explicitly wanted to attract tourists as a way to increase his research funds, and created an aquarium as a simultaneous space for a hybrid lab-field research and sightseeing.[32]

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[29] Article 16 of Law 4277/2014 published in ΦΕΚ 156/A/2014.

The ambivalence of this relationship still holds, but its historic development shows an evolution from a rather conflictual to a rather synergetic connection. As the mass tourism industry launched and expanded in the 20th century, its development priorities and its targeting of areas of natural beauty and wilderness were destructive for the environment and highly adversary to the goals of environmental and conservation science. This story has been well documented in the shores of the Mediterranean after the 1970s, the coastlines of the Caribbean, or inland biosphere reserves.[33] This relationship, however, will change after the 1980s and the emergence of "sustainable tourism" and other "alternative" forms of tourism that resulted from realizations of the adverse impacts of mass tourism.[34] Especially the sub-field of eco-tourism attempted to forge a tighter relationship with environmental science and practices of conservation, protection, and stewardship. In this light, recent literature in tourism management and environmental science often perceives the two as allies, and their overlaps as win-win endeavors.[35] The most important motivation of this standpoint is financing: Many authors agree that tourism should be thought of as a way to secure the necessary funds for the otherwise underfunded project of environmental protection.[36] Although government regulation may be more effective than industry-driven efforts, the latter can be especially useful in developing countries.[37] In much of tourism and environmental science literature there seems to be a consensus that this is a mutually beneficial relationship since the protected surroundings are essential for the tourism product.[38] In this light tourism is framed as a "balancing act" between economic growth and environmental governance.[39] However, these literatures most times rest on unproblematic assumptions of economic growth and conservation, and rarely question the agency of environmental scientists and NGOs in issues of demarcation-, decision-, and policy-making.

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[30] Here I refer to tourism in the sense it grew to acquire after the mid-19th and especially after the 20th century interwar period. Other travelers and excursionists have had longer histories of entanglement with the production of knowledge, especially with regards to colonial science—Darwin in the Galapagos and von Humboldt in the tropical South America are just two well known examples. As anthropologist Paige West points out, a sort of tourism for scientific curiosities seems to have existed at least since 1881 when a first relevant guidebook was published. But she observes that the term "scientific tourist" will only emerge a century later to denote those researchers conducting brief research trips and who either engage in "extractive" processes of knowledge making or are interested in gaining symbolic capital. See: West, "Tourism as Science and Science as Tourism," 2008. For older science excursionists see: Sulloway, "Darwin's Conversion," 1982.

[31] Kohler, *Landscapes and Labscapes*, 2002.

[32] de Bont, "Between the Laboratory and the Deep Blue Sea," 2009. The quote is from page 208.

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[33] Boers & Bosch, *The Earth as a Holiday Resort*, 1994; Carlos Tello Diaz, "Development versus Conservation in the dispute for the wetlands of the dry tropical forest," 2013.

[34] Roblek et al, "Evolution of Sustainable Tourism Concepts," 2021; Liu, "Sustainable Tourism Development," 2003.

[35] Brightsmith et al, "Ecotourism, conservation biology, and volunteer tourism," 2018.

[36] Whitelaw et al, "Protected Areas, Conservation, and Tourism," 2014.

[37] Buckley, "Tourism and Environment," 2011.

[38] Meganck, "Coastal Parks as Development Catalysts," 1991. Some have as far as to try to quantify the impact of, say, biodiversity richness in tourist flows, see: Echeverri et al, "Biodiversity and infrastructure interact to drive tourism to and within Costa Rica," 2022.

[39] Hovelsrud et al, "Sustainable Tourism in Svalbard," 2021.

Convincing critiques of eco-tourism and the entanglement of conservation and environmental intervention with the tourism industry have been elaborated in critical geography, critical tourism studies, and development studies among others. Received literature has pointed out the inherent contradiction of the "sustainable tourism" endeavor within a capitalist system that strives for continuous economic growth.[40] In their review of the field, sociologists Robert Fletcher and Katja Neves document "ecotourism's impressive capacity to provide a 'fix' of sorts for a variety of contradictions inherent in the accumulation process," which refers to the ways that capital overcomes crises of overaccumulation through spatial expansion, temporal deferral of debt.[41] Empirical evidence from eco-tourism operations have shown how practices of conservation may be developed as an "environmental fix".[42] Other related series of works centers on the neoliberalization of nature and how eco-tourism specifically contributes to this process.[43] As geographers Evangelia Apostolopoulou and William Adams argue, natures are conserved only when framed as visible market commodities.[44] A consequence of these economically productive framings that practices of eco-tourism themselves render is green grabbing—the consolidation of property or other forms of control over natures—something also well documented in empirical studies.[45]

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[40] Duffy, "Nature-based tourism and neoliberalism," 2015.

[41] Fletcher & Neves, "Contradictions in Tourism," 2012: 61. For the concept of spatial fix see: Harvey, "The Spatial Fix," 1981.

[42] Keul, "Tourism Neoliberalism and the Swamp as Enterprise," 2014.

[43] Büscher et al, *Nature Inc.*, 2014; Duffy, "Neoliberalising Nature," 2008.

[44] Apostolopoulou & Adams, "Neoliberal Capitalism and Conservation in the Post-crisis Era," 2014.

[45] Fairhead et al, "Green Grabbing," 2012; Wieckardt et al, "Environmentality, green grabbing, and neoliberal conservation," 2020.

One theme that emerges as a major concern in this critical literature is the influence of development or conservation priorities regarding the ordering and utilization of nature. Anthropologist Ashley Carse, in his ethnography in the Panama Canal Watershed, showed how nature and its resources, framed as critical infrastructures, can be utilized towards different ends: in the case of the Canal, freshwater is critical for both global logistics and local agriculture.[46] The balance and fight among priorities is a major concern in the sites of the stewardship-hospitality complex. It is well known that conservation practices include eco-biopolitical governance decisions—"making live" or "letting die"—even if many times these remain implicit.[47] Even more proclaimed, environmental intervention and engineering schemes gear nature's vitality towards particular ends, and are ascribed with political priorities.[48] As Carse puts it in another study: "The ideal river for shipping and the ideal river for sturgeon (or bass or factories or tourists) are not the same—indeed, they can't be."[49] Moreover, beyond the explicit shaping of environments and priorities for nature's utilization or enjoyment, there are cases in which the process is much slower and more implicit. In a project that bears much similarity to the one undertaken here, anthropologist Amelia Moore writes a multi-sited ethnography in the Bahamas, looking at the intersections of tourism and environmental science. In her case, she shows how the interest of Global Change Science in the ecology of the islands has created a tourism industry around it. As she highlights, places like the one she looks at in the Bahamas, are textually and materially remade through field research, contingent upon the type of knowledge they can offer. For example, the Bahamas are a site for the study of coral reef socioecologies, something that not only produces an image around this identity (to the scientific and wider public), but also it materially recreates it through funded conservation programs and interventions—when for example agricultural production does not receive any of the two.[50] In a related register, some recent studies have explored how land use priorities make territory. Sociologist Revati Pandya and his three colleagues offer a perspective of the changing dynamics of land use during development and operation of eco-tourism programs in Corbett Tiger Reserve, India: Their approach adds a historical evolution perspective, that shows how locals' perceptions change with regards to land use, increasingly rendering a place "touristifiable."[51] Human geographer Jevgeniy Bluwstein studied the interplays between local landowners or community lands, eco-tourism entrepreneurs, and government regulation in Burunge Wildlife Management Area in Tanzania. He makes the claim that eco-tourism practices have caused a form of "internal (re)territorialization" by installing regimes of control and governance and shifting priorities away from a previous productive activity—agriculture or otherwise.[52] The studies above point to how implicit priorities advanced through environmental research and stewardship, influence the production of space and territory. Although this is well documented domain with regards to conservation and environmental science production, it is less so with regards to the workings of tourism, and this is where I wish to contribute.[53]

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[46] Carse, "Nature as infrastructure," 2012; Carse, *Beyond the Big Ditch*, 2015.

[47] Biermann & Mansfield, "Biodiversity, purity, death," 2014.

[48] Wakefield, "Making nature into infrastructure," 2020. For a case study in a tourist context see: Kothari & Arnall, "Contestation over an island imaginary landscape," 2017.

[49] Carse, "The ecobiopolitics of environmental mitigation," 2021: 531.

Specifically in the case of Greece, there has been scant attention to the evolving relationship between tourism and stewardship. Most received critical literature approaches tourism development with an interest in its regional, economic, and legal implications.

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[50] Moore, *Destination Anthropocene*, 2019.

[51] Pandya et al, "Rendering land touristifiable," 2022.

[52] Bluwstein, "Creating ecotourism territories," 2017. See also Vandergeest and Peluso, "Territorialization and state power in Thailand," 1995.

[53] For conservation and science making territory see: West, *Conservation is our Government Now*, 2006; Raby, "Ark and Archive," 2015; Hennessy, "The Politics of a natural laboratory," 2018. For a discussion on the underexplored interplay between tourism and territory see: Pandya et al, "Rendering land touristifiable," 2022.

Human geographer Yorgos Melissourgos examined the relationship between regional development and large-scale tourism developments—the scale that concerns my case study here.[54] Looking at a similar topic, another human geographer, Ioanna Korfiati examined issues of land ownership and rent gaps that result in land monopolies.[55] Both these examples and other similar ones, adopt an economic-geographic approach, focusing on the geoeconomic aspect of territory. Rather closer to my focus, though not directly related to tourism, Apostolopoulou and Adams wrote a critique of practices of neoliberal conservation in the aftermath of the country's economic depression.[56] And in an anthropologic study Theodossopoulos examines the responses of a small island community to the early practices of environmental NGOs initiating programs for the protection of the loggerhead sea turtle.[57] Especially this latter type of longer-term ethnographic study looking closely at locals, activists, scientists and their intersections, asking questions less about economic geography and more about cultural geographies, practices, values, and priorities, are less frequently found in greek-related literature on tourism and my study aims to address this gap too.[58]

Studying the guardians of the summer during the summer

There are many—perhaps too many—places in which environmental stewardship and tourism intersect. This is true not only for Greece and the global sunbelt, but also for other places of ecologic extremities and wunderkammers, such as the Arctic or Iceland. In these cases, environmental research, conservation, land demarcation, wildlife rehabilitation, and forms of reparative or protective interventions have become entangled with an economy of inbound visitors, volunteers, and experts. Some of them are more visible and more extensively documented in literature, such as reserves, sanctuaries, geoparks, and notorious eco-tourism places such as the Galapagos islands or the Amazon rainforest. While these stand in the intuitive forefront of the environment-tourism overlap, other instances where this relationship manifests have remained less visible as less accessible, less intuitive, or less direct in how they intersect. They may be eco-certification governance mechanisms, hospitality-affiliated research stations and traveling networks of researchers, legal zoning tools, or other relatively mundane environmental management practices. Importantly, they are less "places," as they are mechanisms, protocols, or socio-technical assemblages. In the present work, my effort has been to look for and then look into such instances: I will unpack three cases where the techno-scientific apparatus of environmental calculation and the bureaucratic apparatus of environmental management mix with fables of paradisic quiescence, endangered animal and habitat care, ecosystem protection, and planetary stewardship: a popular eco-certification scheme for beaches, the environmental management practices of a large hospitality corporation, and an island municipality's responses to geologic events.

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[54] Melissourgos, Τοπική-περιφερειακή ανάπτυξη και η γεωγραφία των χωροθετικών αντιθέσεων, 2008.

[55] Korfiati, "Landscapes on Hold," 2022.

[56] Apostolopoulou & Adams, "Neoliberal Capitalism and Conservation in the Post-crisis Era," 2014.

[57] Theodossopoulos, *Troubles with Turtles*, 2003.

[58] For the lack of qualitative and anthropological research in tourism see: Galani-Moutafi, "Tourism Research on Greece," 2004.

Before I get into these three case studies, an Interlude will inquire into the relationship between stewardship and the production of territory. This can be read as a second introductory chapter, or an "extended footnote" that further sets the stage and the terminology for what is to follow. More specifically, this section historicizes the concept of what could be called *calculative stewardship*, exploring the relationship between environmental responsibility and care to the practices of environmental calculation and subsequent territory-making. In an effort to look at the large-scale, systematic efforts, and "darker aspects" of stewardship—escaping from its prevailing and vague understandings through notions of "care," "protection," and "affect"—I focus on the epistemic infrastructures of stewardship practices. I synthesize work from political geography and the history of science and technology to draw two distinct and historically specific understandings of (environmental) stewardship: one is connected to the territorial ambitions of the nation-state in the engineering of the landscape during the Renaissance; and a second connected to the emergence of the category of the planetary in the aftermath of earth systems science and the environmental movement toward the last quarter of the 20th century. In a sense these are two fragments of a genealogy of stewardship yet to be written. My discussion aims to highlight three things: one, the evolution of stewardship from a state-centered activity to a largely extra-state one; two, a scaling-up of stewardship's scope in the era of the Anthropocene that has added to its narrative power; and three, that in its effort to establish administrative control, stewardship's epistemic infrastructures tend to construct chains of accountability, that in turn connect to the making of territory. If this genealogy is necessary to understand the historic specificity of stewardship, then a concluding part offers some notes on the more recent historical construction of the relationship between stewardship, leisure, tourism, and hospitality.

Chapter 1 begins with the specific cases from the Greek summer, studying first an eco-certification program. The so-called "Blue Flag" is a scheme that rewards the sustainable treatment of coasts. Unlike other certificates and standardization badges that often remain "mundane" background protocols, in Greece the Blue Flag is accompanied by yearly celebrations that sometimes take the form of elaborate performative rituals: the flag is carried, hoisted, and celebrated in quasi-religious and often televised processions. I analyze the spatial apparatus of the Blue Flag and read its associated patterned performances as a cultural text to argue that the rich symbolic work of the Blue Flag is essentially a process of shaping environmental subjects while capturing the terrain and standardizing a type of *environmental experience*. The Blue Flag provides a mechanism for managerial control of and governance over the bounded space of the beach, while naturalizing the culture of calculative control over the terrain. However, the references to the environment are largely decoupled from the biogeophysical materiality and are rather underpinned by understandings of the environment as a national-cultural landscape and a part of the hospitality services on offer. This does not mean that the symbolic work at play under the Flag is empty or disingenuous, but rather points to how the "environment" is functioning as a discursive narrative device more than a material one.

Turning to a tourism enclave in southwestern Peloponnese, Chapter 2 studies the practices of a large hospitality complex that has recently emerged as a major actor. Building on a corporate identity that posits it as a sort of guardian for the region, the organization has engaged in a series of interventions related to environmental stewardship: the development and funding of a plan for regional water management; a program to monitor endangered animal populations in its vicinity; the environmental management of a nearby state-protected lagoon; and the establishment of a research station for climate change. I document the entanglement of science production and the hospitality organization's development priorities as they are reciprocally shaped and as they both fall under different understandings of what nature and its protection mean. I present this case as characteristic of a macro-trend of hospitality corporations to become increasingly financialized and corporatized, transitioning away from a model of smaller-scale and more family-owned structure that prevailed until the 1990s. With this development—and given the enframing of tourism's biogeophysical environments as critical infrastructures—emerges a strategic effort of hospitality corporations for large-scale environmental stewardship that is spatially expressed as calculative control over the terrain and gives birth to a number of territorial products, technologies, and unexpected collaborations. Essentially a form of *environmental governmentality*, this series of environmental associations become all the more complex and consequential.

The last case study travels to the island of Lefkada, in the Ionian Sea. Chapter 3 weaves together two interrelated geologic, or geologic-scale, phenomena: the recent earthquake event of 2015 and the ongoing coastal erosion exacerbated by climate change. Paying attention at the contrast between the deep-temporalities of these events and the paces of tourism, I discuss the official and unofficial efforts to move sands, remake shores accessible, replenish beaches, and unblock canals. Even if natural, geologic perturbations are perceived as important "out-of-orderings", breakdowns that need to be urgently addressed as they endanger both the acquiescent imaginary of the beach and the critical operational landscape that is of economic significance. To respond, the community strives towards a stabilization of the landscape with infrastructural interventions. Concerns around natural purity, safety, and accessibility boil down to questions of teleological operation prioritizing the equilibrial imaginaries of tourism. These otherwise ordinary and bureaucratic decision processes are suspended between intervention and non-intervention, foregrounding what is essentially an *Anthropocene dilemma*.

In the Conclusion I make two interrelated points. First, that contemporary political demarcation tools, overly focused on property and economics as they are, seem immature to comprehensively account for the complex making of territory at play through the ordering of the biogeophysical terrain and its technics. Although framed and catalyzed by seemingly benevolent practices, such as that of care and stewardship, more attention needs to be given to the activities of environmental calculation that shape natures and territory in specific ways. Second, that the framing of landscapes and natures in the context of tourism fixes spatial imagination, tethering coastal natures to the specific programs of human leisure. There seems to be a persistent difficulty to think of tourismscapes otherwise, freed from the programs of the specific leisure typologies associated with "the beach"—a symptom of the staying power of tourism and its spatial reverberations.

An Addendum to Chapter 3 and an associated Appendix attempt to tackle this problem of imagination and future thinking from a methodological perspective. In the Appendix I make the case for what I call "analysis-fiction," a sister project to the Baudrillardian theory-fiction. Analysis-fiction proposes the ability of analytical scholarly research to study the proclivities, dispositions, and potential associations of a set of adjacent-possible phenomena, in an attempt to reclaim the practices of foresight from the consultancy and planning domains. The Addendum attached to Chapter 3 is a proof-of-concept for this methodology. It is a story that weaves together trends in the cement, tourism, and carbon capture industries to speculate on an enhanced weathering negative emissions technology implemented at scale in the coasts of Lefkada island. The Annex at the end of the document also builds on the methodology of analysis-fiction: It is a supplementary report that traces the same story, but this time from the perspective of the green turn of the cement industry. The Addendum, the Appendix, and the Annex are best read together, but can also be considered separately.

The wide array that the three case studies try to cover may at first make my pursuit appear scattered, but I have thought of the suite as an inquiry into the major actants of the stewardship-hospitality complex. In Chapters 1, 2, and 3 I focus respectively in: an Environmental NGO that has constructed a global network of eco-certification; a nationally-based large development-hospitality corporation with multinational collaborators and investors; and a small-medium scale municipality with its associated civil society organizations in an averagely touristified island.

The structure and choice of cases provided an opportunity for an equally wide ranging suite of methodologies. For Chapter 1, I mainly base my analysis on news and organizational ephemera, a lot of Youtube videos, and anything that the Foundation of Environmental Education—the NGO behind the certification—has produced in relation to the Blue Flags. During my summer fieldwork in 2022, I made sure to visit as many Blue Flag beaches as possible, although only to realize, that in some cases the certification was almost invisible on the ground. Chapter 2 draws on a visit to the Navarino Environmental Observatory where I was hosted for four days. In this brief period I conducted four semi-structured interviews with researchers and hotel executives, participated in the research activities of the station, discussed with resident and visiting scientists, and kept a diary with field notes.[59] For Chapter 3, my research was also mostly remote. I read municipality proceedings and the local press, to reconstruct the events I comment on and understand the dynamics between different communities and the authorities. A few discussions and interviews were also instrumental to the development of this part.

However, I need to note here that these bits of research were supplemented by a further month of visits in the islands and coastal resorts, in a sort of "non-systematic ethnography." Most significant stops were in the islands of Santorini and its inverted double, Therasia (more on that experience and dynamic in the Conclusion), as well as Syros, Ikaria, Ios, and Crete. My interlocutors' emphasis in "stewardship," "care," and

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[59] Two necessary notes on method. One: all the interlocutors I met and spoke with during my trips to Messinia and the islands appear here in pseudonyms, except for the lead researcher at NEO, whose work is easily identifiable through academic publications—which I also cite. Two: I understand that such a short time of participatory observation does not really qualify as such. Nevertheless, I did approach this part of the research as a pre-dissertation fieldwork. The Navarino Environmental Observatory and its researchers, some of which locals, definitely have a gatekeeping role in the community. Importantly, neither the researchers nor the community seems to identify them as part of the corporate body (although they by definition are part of it—see chapter 2). This "insider-outsider" suspension of identity in the Observatory seemed to provide a fitting balance for a "quasi embedded" ethnographic project, following recent work in the anthropology of organizations and corporations. See Welker, *Enacting the Corporation*, 2014; Welker, "Notes on the difficulty of studying the corporation," 2016; and for a critique of industry-embedded ethnographies see Coumans, "Occupying Spaces Created by Conflict," 2011.

"guardianship" kept coming up during these visits, and it was upon reflection on this summer research as a whole that the stewardship-hospitality complex emerged as a concept.

The stewardship-hospitality machine in reverse

Closing this Introduction, I would like to briefly reflect on my choice of words and concepts, and the potentials I believe they allow for. There are reasons why I choose to use "hospitality" instead of "tourism" in pointing to the stewardship-hospitality complex. For one, tourism is a vulgar topic. It seems to be somewhat of a kitsch choice for research, perhaps as kitsch are all those tourists moving around in masses and chintzy shirts. In addition, it seems to be too frivolous a topic to look at seriously. Why study those privileged subjects, a great majority of whom were until recently white westerners, and who wander around the world to have fun? If something is worth it, it seems to be not so much the study of the tourists themselves and the activities they like to do, but the more "serious" topics that point out their political ignorance, their ties to colonial histories, the side effects of their movements in appropriating cultures, exoticizing places, and gentrifying cities, and their immense carbon footprint. In any case, as cultural theorist Hiroki Azuma puts it, "Tourism studies does not explore the essence of tourism."[60] From the early days that sociologists and cultural studies scholars started theorizing tourism they found that they had to justify their trivial choice of subject matter.[61] It is unsurprising then that theoretical and philosophical approaches to tourism are lagging behind. Consider that most of the canonical theoretical treatises on tourism were written from the late 1970s and then in the 1990s and early 2000s to form a collection that although today feels in many respects "dusty," it hasn't really been updated.[62] In a way it is as if scholarship has agreed and settled on the early theses of tourism theory that unequivocally construct a negative perception of tourism. In any case, at many times during these past two years of working on this project I had the feeling that studying tourism is simply "not cool," or at least passé.[63]

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[60] Azuma, *Philosophy of the Tourist*, 2023: 15.

[61] See the discussion in: Azuma, *Philosophy of the Tourist*, 2023: "Introduction."

A second, connected to the first, but perhaps more important reason I refer to "hospitality" rather than "tourism," is that it consists a different analytic and as such it illuminates different things. My focus is on the hosts and their practices. I refer to this category in an extended capacity, to point to the beach operators, hospitality executives, municipal authorities, or other elected representatives, but also to all citizens involved or invested in the certification and who take pride in their nation's and region's pristine coastal environments, and all those who take pride in seeing their guests and visitors admiring "their" hospitality and "their" environments. Again, the existing literature points to a different direction. Most of those canonical texts in tourism theory I framed above have disproportionately focused on the figure of the guest, not the host. They are rather interested in the effects of the moving body, and the circulation of masses. Sometimes, when studies look at the hosts, the latter are treated as passive receptors of the all-encompassing and overwhelming forces of tourism flows. But in what follows I show that exactly in order to preserve this "invisibility" that renders them part of a static background, the hosts are ceaselessly active: certifying, monitoring, calculating, repairing, and maintaining.

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[62] Three seminal texts that came somewhat earlier are MacCannell, *The Tourist,* 1976; Turner & Ash, *The Golden Hordes*, 1976; and Smith, *Hosts and Guests*, 1977. In the 1990s and early 2000s followed: Urry, *The Tourist Gaze*, 1990; MacCannell, *Empty Meeting Grounds*, 1994; Urbain, *At the Beach*, 2003 (but first published in French in 1996); Sheller & Urry, *Tourism Mobilities*, 2004. More common are empirical studies focusing on tourism in parts of the world, especially in anthropology, which add to the theoretical insights of understanding tourism, yet they are not of the same scope as those earlier works were. Cultural theorist Hiroki Azuma, who makes points supporting this argument in his book, is countering this "tourism theory winter" by offering his *Philosophy of the Tourist* in 2023.

[63] Something that puzzled me over these two years at Yale was that out of the 2,000 courses offered, only two included tourism in their description, and even these do not focus on tourism per se, rather touched on it in passim.

As a distinct analytic, the focus on hospitality allows for thinking of tourism otherwise. Voices from different sides have pointed out the necessity to rethink tourism in the increasingly inflated universe of mobilities we live in today. These voices rightly consider not just the spiking mobilities of pleasure, but also those for business and seasonal work, as well as other forms of migrations, and importantly, all those involuntary displacements and replacements that conflicts and climate change are inciting.[64] Some are suggesting that we need to do away with some of the epistemologies and methodologies of tourism studies to allow for consideration of all mobilities in tandem.[65] Others prefer to keep the category of the tourist—albeit redefining it—as a useful and potentially emancipatory concept to rethink the "Other," especially when this Other is moving too.[66] At this point, it may seem contradictory from my part that I focus on hospitality all the while I claim that we need to consider all those mobile populations anew. But, first, hosts are themselves not static: many are mobile (seasonal workers) and themselves tourists after the end of the season.[67] Second, I am interested in hospitality as the apparatus that makes mobilities possible—not, for example, to simply expose the problems and claim that mobilities should cease. This inversion of the analytical lens—a move akin to an infrastructural inversion[68]—foregrounds a huge apparatus with the capacity of hosting, independent of any particular flows. Putting this machine in reverse, after acknowledging its weaknesses, violence, and injustices, is not about stopping it: it is about showing that, at least in the context of the Eastern Mediterranean, it can accommodate mobilities from the East to the West, as well as it has for decades accommodated flows from the West to East.

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[64] See: Sheller, "Uneven Mobility Futures," 2016.

[65] The new mobilities paradigm, co-initiated by sociologists Mimi Sheller and John Urry, is a crucial part of this direction. See: Sheller & Urry, *Tourism Mobilities*, 2004; Sheller & Urry, "The new mobilities paradigm," 2006.

[66] "By using the word 'tourist' instead, I hope to speak to those who insist that they are tired of being with others … I would like to … drag them through the back door into the liberal imperative to 'respect the Other' once again." Azuma, *Philosophy of the Tourist*, 2023: 5-6.

[67] This is increasingly common among people of my age I met during my research.

[68] Bowker, *Science on the Run*, 1994. See also Nakazore, "Infrastructural Inversion and Reflexivity," 2016.

This project for a more inclusive understanding of mobile populations also extends to the "stewardship" part of the complex discussed here. As sociologist and tourism scholar Mimi Sheller has recently argued, given the colonial pasts and post-colonial realities, climate justice cannot be thought of separate from mobility justice.[69] That is, concerns about the environment and reparations, have to be thought in tandem with the increasing mobilities, either voluntary or, especially, involuntary. The question that arises is how can we think of stewardship in the context of mobility—and its mirror image, hospitality? So far, and to a large extent, stewardship is thought of as tethered to a primarily sedentary notion of relating to or appropriating lands, one that curiously pervades western and non-western associations in a history that goes beyond the enlightenment, and one that we take completely for granted today. Thinking of land stewardship, it is common that one will encounter beliefs of rootedness, and even claims for links between blood and soil—claims radical in both ends of the spectrum. But the other face of the stewardship-hospitality complex suggests that there may be a version of stewardship that is practiced while one either hosts or is hosted, but in both cases as a relational, fluid, and mobile way. If environmental stewardship is about an ethics of taking interest and responsibility over a biogeophysical milieu, it is true that exercising this ethics while mobile is extremely difficult. Maybe one of the most difficult things is to "stand" in solidarity and "care for" while being transient or while relating with other transient entities.[70] But as we cannot afford thinking of "tourists" and "vagabonds" in isolation, so we cannot afford to think of the stewardships to come as connected to static territories.

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[69] Sheller, "Mobility justice after climate coloniality," 2023.

[70] Thank you to Audrey Fischer and Chong Gu for pointing this out to me.

Interlude

The Environment Must be Defended: Stewardship, calculation, territory

To his 1976 course at the Collége de France, Michel Foucault gave the title “Society Must Be Defended.” During these lectures Foucault attempts to draw attention away from the juridical—as it is according to him an insufficient way to study power—and into war as an alternative analytic. “War” here is rather considered as a strategic model of power, that may include the making of knowledge and truth.[1] His analysis ends in the eleventh lecture with an early outline of what he calls “biopolitics,” a concept that will take up a big part of his subsequent study.[2] This “new technology of power” concerns governmental mechanisms that are applied not to the individual body, but the population in general, targeting humans as biological entities: statistics, birth control, fight of endemic illnesses.[3] Continuing, in a passage that is less often quoted, Foucault contends that another domain of biopolitics is the “control over relations between … human beings insofar as they are a species … and their environment, the milieu in which they live.”[4] He illustrates this with a reference to swamps, implying that the manipulation of the biogeophysical environment for the protection of populations from their potential adversary effects is part of the type of power he examines. However, since Foucault delivered those lectures, it seems that instead of—or in parallel to—society, more and more voices demand that also *the*

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[1] See: Davidson, “Introduction,” 2003.

[2] Most notably in his next two lecture series: “Security, Territory, Population” (1977-78) and “The Birth of Biopolitics” (1978-79).

[3] Foucault, *Society Must Be Defended*, 2003: 243.

[4] Foucault, *Society Must Be Defended*, 2003: 245.

environment "must be defended." This complicates the question of the environment's enframing and manipulation. Stewardship, I will suggest here, as a key practice that responds to these calls, sits—both historically and conceptually—in between these two lines of "defense," that is, between these two types of environmental management.

Before I can proceed with my specific case studies in the context of the tourism and hospitality industries in the next chapters, here I will examine environmental stewardship conceptually and historically. I argue that in its contemporary understanding as an administrative technique, environmental stewardship entails the production and control of territory: It reorders the terrain, differentially values non-human entities (organic and inorganic), shapes technologies of its regulation, and reorients the realpolitik of intervention and conservation. Not unlike population biopolitics, this interplay works through practices of calculation, or what others have called political arithmetics: measuring, monitoring, mapping, and projecting.[5]

To shed light to this connection, I will examine two distinct and historically specific understandings of environmental stewardship, approaching it through the methodological concept of *epistemic infrastructures*. As I will elaborate below, both stewardship and territory have largely been treated ahistorically, as concepts assumed to be self-evident. But the relationship between stewardship and territory is historically constructed, and here I begin to draw notes for a genealogical account of their connection.[6] I borrow the methodological concept of epistemic infrastructures from the work of historian and feminist scholar Michelle Murphy, and take it to mean the background socio-technical mechanisms and institutions of research that produce knowledge and instigate intervention.[7] Here, I will be asking what are the epistemic infrastructures of stewardship in certain moments in time, and will show how stewardship necessitates ways of knowing about, calculating, and subsequently intervening on the environment, thus establishing the relation to the production of territory. Among other reasons that I will unpack, approaching environmental stewardship through the concept of epistemic infrastructures allows me to focus on complex organizations—rather than individuals. Importantly, I am looking at more than just what the material practices of stewardship are; epistemic infrastructures are supporting, preceding, and framing (and thereby constraining) material practices and material infrastructures, and so the former provide a more powerful analytical tool. This is also the reason that in the chapters that follow I am more interested in the knowledge making practices that create power over territory: certification, research production, and environmental assessments.

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[5] In a somewhat symmetrical treatment, some have suggested to call this power "geopower," but I will neither use the term nor examine the differently nuanced claims. See Luke, "On Environmentality," 1995, Grosz et al, "An Interview with Elizabeth Grosz," 2017; Yusoff, "The Anthropocene and geographies of geopower," 2018. For a review see Luisetti, "Geopower," 2019. For the notion of political arithmetic see: Elden, *The Birth of Territory*, 2013; Buck, "Seventeenth-Century Political Arithmetic," 1977.

[6] I do so less in search of what political scientist Mark Bevir reads as a "pious invocation of Foucault and critique", and more in an attempt towards a "history of the present." Bevir, "What is Genealogy?," 2008: 264.

Environmental stewardship is a concept increasingly invoked in international treaties, policymaking, industry, and scholarly literature, particularly with regards to land and environmental management practices, and more recently with regards to the concept of reparation. As I discussed in the Introduction, on a discursive level, "stewardship" is often invoked with a benevolent disposition, carrying connotations of care and responsibility, and the hospitality industry definitely takes advantage of this framing in a variety of Corporate Social Responsibility programs and Sustainability-Governance reports. But approaching environmental stewardship as a set of technologies of administration—over both organic and inorganic entities, and including humans—brings to the fore certain political repercussions, especially to the production of space, that stewardship is less frequently associated with.

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[7] Murphy, *The economization of Life*, 2017.

The chapter is structured in four parts. The next section introduces and qualifies the basic concepts with which I am working: epistemic infrastructures, territory, calculation, and stewardship. The second part discusses "stewardship politics" as they were emerging and exercised in 17th century France. For this part I read closely the work of cultural historian and STS scholar Chandra Mukerji, reorienting her observations by reading them through the work of political geographer Stuart Elden. The third section traces the emergence of environmental stewardship politics in the global political arena around the last quarter of the 20th century, focusing on the agency of extra-state actors. Having established the historicization of the interplay between environmental stewardship and territory, a closing section briefly traces the early connections between stewardship and hospitality initiatives.

Vocabulary: Epistemic infrastructures, stewardship, calculation and territory

In her work, Michelle Murphy employs the concept of epistemic infrastructures to study the historical regimes of valuation and governance of life that were driven by the macroeconomics of the nation-state in the mid-20th century—what she calls the "economization of life." For her project, epistemic infrastructures were "arrangements of research and governance within state, transnational, and nonprofit organizations" that used "practices for quantifying and intervening in aggregate life."[8] Other authors have used the concept in similar ways, making connections to STS scholar Karin Knorr-Cetina's work on epistemic practices and cultures.[9] For example Christian Bueger highlights that epistemic infrastructures are "larger formations that connect [epistemic] practices and sites to each other," and as such are background preconditions for the employ of practices.[10] The focus on the infrastructural is crucial for at least two reasons. One, because as Murphy also notes, "knowledge-making can install material supports into the world—such as buildings, bureaucracies, standards, forms, technologies, funding flows, affective orientations, and power relations." Two, because as Luke Munn elaborates upon a similar conception of epistemic infrastructures, they effectively shape the *production* of knowledge, which is, as I stressed earlier, more than just giving form to some of its applications.[11] For both those reasons I am interested in the epistemic infrastructures of stewardship, which are more than and precede its practices.

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[8] Murphy, *The economization of Life*, 2017: 6.

[9] Knorr-Cetina, *Epistemic Cultures*, 1999.

Risking overdrawing an analogy, I want to note some similarities between Murphy's project and the one proposed here that may better situate both my decision to use the "epistemic infrastructures" and the centrality of calculative techniques for my work. Murphy exposes a form of governance that operated on the "population" through techno-scientific calculative techniques that rendered human lives more valuable or less so, with regards to the macrological figure of the "economy." That is, Murphy's object of analysis is the connection between economy and population. In a footnote, she admits that Foucault's work on governmentality and biopolitics has been crucial inspiration.[12] Indeed, after the initial outline Foucault drew in 1976 to which I referred in the opening of the chapter, Foucault delivered two courses in Collège de France from 1977 to 1979—"Security, Territory, Population" and "The Birth of Biopolitics"— in which one of the central arguments was that there is a shift in the objectives of government, drawing attention away from territory and unto population.[13] In these lectures Foucault essentially provides a theory of governmental reason, being interested in the emergence and consolidation of calculative techniques of the state that were geared towards guaranteeing the well-being of their subjects—from a territorial pact to a "pact of population." This according to Foucault began to appear at some point around the late 16th century.[14] In a convincing critique, political theorist and geographer Stuart Elden challenges some of Foucault's interpretations of his primary readings, and suggests that both the categories of "territory" and "population" emerge at the same point in time, and that there is no shift or substitution of the one with the other.[15] And even if Foucault marginalizes territory in his analysis,[16] he still provides useful ways to think about it when, in Elden's words, he makes a "valuable link between raison, rationalité, ratio as political practices and the rationality of the natural sciences."[17] Elden closes his analysis writing:

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[10] Bueger, "Making things known," 2015: 8, as mentioned in Munn, "Thinking through silicon," 2022: 1401.

[11] See also Munn, "Thinking through silicon," 2022: 1402.

[12] Murphy, *The economization of Life*, 2017: 149, note 17.

[13] The lecture on "Governmentality" that Murphy cites is part of the first course.

> "Territory is more than merely land, but a rendering of the emergent concept of "space" as a political category: owned, distributed, mapped, calculated, bordered, and controlled. Foucault's notion of the politics of calculation is therefore crucial, but not as something which only manifests itself in population, but, rather, in territory too. The same kinds of mechanisms can be found in both, at root grounded in the relation between governmentality and calculation."[18]

Governmental reason and practices developed for populations, brought the state in direct contact with the qualities of its territory.[19] In this light, if we could read Murphy's project as one tracing a form of "population stewardship"—especially considering the Cold War development practices that exported research from the developed to the developing world and experimented on Bangladesh subjects—then my project is an investigation towards "territorial stewardship." Stewardship here retains its central meaning as administrative supervision and management. But before I turn to the notion of stewardship, let me make the connection between the calculative, the administrative, and the production of territory more clear.

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[14] See Foucault, "Security, Territory, Population," 2009.

[15] The critique is launched in: Elden, "Governmentality, calculation, territory," 2007. But the project for a more complete historicization of the concept of territory is in: Elden, *The Birth of Territory*, 2013.

[16] Indeed Foucault suggested that the title of the course "Security, Territory, Population" should have been the "History of Governmentality." See Elden, "Governmentality, calculation, territory," 2007: 562.

[17] Elden, "Governmentality, calculation, territory," 2007: 577.

[18] Elden, "Governmentality, calculation, territory," 2007: 578.

[19] See also Braun, "Producing vertical territory," 2000.

As a concept, territory has for long been understudied, treated as ahistorical and self-evident, often assumed to be simply either the result of territoriality, or a bounded space where power is exerted.[20] Stuart Elden worked toward a historicization of territory in Western political thought, providing some helpful distinctions that I wish to build upon. Elden suggests that territory has four intertwined components. In a political-economic approach, territory refers to land as an entity that can be partitioned, sold, exchanged and expropriated. In a political-legal approach, territory refers to the legal regime that classifies or delimits it. In a political-strategic approach, the concept refers to the biogeophysical terrain and the articulation of the physical site. Lastly, in a political-technical approach, territory refers to the techniques of measurement and calculation that make partitions and control possible.[21] Elden recognizes that the economic and military-strategic approaches to territory—represented by the concepts of the "land" and the "terrain"—have been overstated, leaving a more complete understanding of territory underexplored. And although he makes clear that it would be reductive to treat any of the above aspects of territory in strict isolation, he has for different reasons suggested that the technical—and its relation to the strategic—need receive more attention.[22] The neglect that Elden points out is something evident in the Greek context of hospitality and tourism natures I am studying: as I mentioned in the Introduction, the economic and legal understandings of territory take up most of the analysis, whereas the technologies that render and shape it receive less attention.[23] That said, calculation emerges not only as a crucial tool for the governance of territory as suggested above in conversation with Foucault, but also as a constitutive force in the production of territory.[24] James Corner notes that "space becomes territory through acts of bounding and making visible."[25] Cartographic and boundary-making calculations of longitude and latitude have been well documented. But we need to ask what other kinds of "maps"—or other "models" that work through calculative techniques—can we think of that are facilitating the production of territory? The claim here will be that stewardship practices and their epistemic infrastructures have provided, and still provide such models.

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[20] For a critique and reasons for this neglect see Elden, *The Birth of Territory*, 2013: 3-6. See also Agnew, "The Territorial Trap," 1995.

[21] Elden, "Land, Terrain, Territory," 2010; Elden, *The Birth of Territory*, 2013: 9-10.

[22] Elden, "Legal terrain—the political materiality of territory," 2017; Elden, "Terrain, Politics, History," 2021.

To close this section I now turn to the concept of stewardship. The Oxford English Dictionary defines the term as (1) the office of the steward, and (2) the conduct of the office of the steward, that is administration, management, and control.[26] This definition is close to the one appearing in the Cambridge dictionary: "the way in which a person controls or organizes something."[27] But they both differ from those in Collins and MacMillan dictionaries, which frame the concept around the action of "taking care."[28] I note this because I will return to the association of stewardship with care, but it already becomes apparent that from control and administration to organization to taking care, stewardship has a quite variegated standing in language. Scholars engaging with the concept from different fields have noted—even complained—about this multiplicity of meaning, as well as the fluidity and dynamism of the term that makes its understanding complicated.[29] According to the Oxford English Dictionary the word brings together two Old English parts: "stig," for "house" or "part of a house" and "weard" for "keeper" and it first appears in the 15th century.[30] Despite its long history and complex and changing connotations not only are the historical accounts of the concept very limited, but also some authors refer to the etymology to describe a seemingly still prevailing meaning of the word, generally treating it ahistorically.[31] For example, in the review and synthesis of literature around the concept that environmental scientist Jessica Cockburn and her colleagues present, meanings of stewardship persist and aggregate unproblematically from the 15th to the 21st century.[32] In addition, the literature appears to be increasingly interested on the concept, especially in medicine[33] and environmental studies.[34] In the latter field that I am most interested in here, calls for various types of stewardship abound in the past decade: "planetary," "earth," "biosphere," "ocean," "ecosystem," "socio-ecological."[35] Despite this apparent proliferation—and perhaps save for the field of religious studies—environmental stewardship remains undertheorized, as the field appears to be taking shape only recently.

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[23] In a way, this is also consistent with Foucault's observation that the juridical understanding of sovereignty has been overstated, producing an incomplete and insufficient image of how power functions. See Foucault, *Society Must be Defended*, 2003.

[24] See also the discussion on political arithmetics in Elden, *The Birth of Territory*, 2013; and Crampton, "Cartographic calculations of territory," 2010.

[25] Corner, "The Agency of Mapping," 1999.

[26] Oxford English Dictionary (online), https://www.oed.com/view/Entry/190092?redirectedFrom=stewardship#eid. Noteworthy is that according to the OED, the definition has not been updated since 1986.

[27] Cambridge (online), https://dictionary.cambridge.org/us/dictionary/english/stewardship.

[28] Collins (online), https://www.collinsdictionary.com/us/dictionary/english/stewardship: "stewardship is the responsibility of taking care of property;" MacMillan (online), https://www.macmillandictionary.com/us/dictionary/american/stewardship: "the way in which someone organizes and takes care of something."

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[29] For an account in environmental science and sustainability see Cockburn et al, "The Meaning and Practice of Stewardship in South Africa," 2019; in medicine see Jansen, "Between Beneficence and Justice," 2013; in business ethics see Kearns, "Leadership as Stewardship," 2022, in law see Barritt, "Conceptualising Stewardship in Environmental Law," 2014.

[30] Oxford English Dictionary (online), https://www.oed.com/view/Entry/190092?redirectedFrom=stewardship#eid. The term "steward" appears earlier, in the 11th century.

[31] Historical accounts I came across were almost exclusively related to its religious (Biblical/Christian/Protestant) history: Berry, *Environmental stewardship*, 2006. For ahistorical treatments of the concept and its etymology, an example is: Gini & Green, "Three Critical Characteristics of Leadership," 2014. Note that this is a business studies case; similar references to etymology are found in religious studies, but this is justified given the biblical or scriptures context.

[32] Cockburn et al, "The Meaning and Practice of Stewardship in South Africa," 2019: 2.

[33] As noted in Jansen, "Between Beneficence and Justice," 2013.

[34] Noted in several sources, such as Mathevet et al, "The concept of stewardship in sustainability science and conservation biology," 2018; Bennett et al, "Environmental stewardship," 2018. In Scopus the simple queries for "stewardship" and "environmental stewardship" will respectively trigger 3,211 and 115 results for 2021, up from 37 and 5 in 1991.

[35] See for example Chapin et al, "Ecosystem stewardship," 2009; Steffen et al, "The Anthropocene," 2011; Österblom et al, "Scientific mobilization of keystone actors for biosphere stewardship," 2022.

Cockburn and colleagues make the very useful observation that theorizations of stewardship do not necessarily overlap with the practice of stewardship and its understanding by practitioners on the ground. They enquire on the meaning and practice of the concept in South Africa and in so doing their research is useful not only for foregrounding the practical side of stewardship, but also for contextualizing and locating the geographical (and consequently cultural) specificity of the concept. The apparent universality of stewardship and the detachment from practice are two points I will return to, but the findings of this study are also important for my argument: Cockburn and her three co-authors find that

> "practitioners' understandings of stewardship coalesce around two core notions: the idea of stewardship as 'responsible use and care' of nature, and stewardship as a 'balancing act' between stewards' use of natural resources for agricultural production and their responsibility to protect and manage the wider ecosystem."[36]

This is significant: nowhere in their informants' responses do notions of "administration" and "control" appear. The differences on the definitions I noted among dictionaries earlier now start coming to the fore. At the same time, the few efforts towards theorization with regards to stewardship, even if normative, they persistently engage with the notion of care.[37] This is significant because if framed through care, stewardship ostensibly appears less related to questions of power, space, and territory. On the other hand, an approach to stewardship through the notions of administration would certainly provoke more thinking around these problems of power and knowledge.[38] Part of the motivation for this paper is exactly to challenge this framing of stewardship through the—admittedly vague—notion of care that eclipses functions of power and control.

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[36] Cockburn et al, "The Meaning and Practice of Stewardship in South Africa," 2019: 7.

[37] Explicit in Nassauer, "Care and stewardship," 2011; West et al, "Stewardship, Care and Relational Values," 2018; Enqvist et al, "Stewardship as a boundary object for sustainability research," 2018. See also Bennett et al, "Environmental stewardship," 2018.

Stewardship and state politics in 17th century France

Chandra Mukerji's work on environmental engineering and land management projects in France during the reign of Louis XIV speak exactly to this connection between stewardship, territory, and calculation. In fact, throughout her work she gradually develops and utilizes the concept of stewardship politics as an analytical tool (which she contrasts to patronage politics), and she discusses the socio-techno-scientific apparatus that made it possible. However, parts of her unpacking of territory and calculation, and to a lesser degree of stewardship, remain scattered or unclear. That said, I am not proposing a different reading of her work, but rather I am rereading it through Stuart Elden (whose work on territory postdates Mukerji's), centering on stewardship as a calculative project for the production of territory, and assembling and foregrounding the epistemic infrastructures of this type of geographical practice and political philosophy.

But first, why 17th century France? Why would this be a fitting point for a genealogy of the territory-stewardship dyad to begin? Finishing his sweeping review of the concept of "territory" as it appears or is implied in political thinkers from Homer to Rousseau, Elden claims that it is around the era associated with the "Scientific Revolution" that today's idea of *territory as the extension of the state* emerges.[39] The concept takes shape gradually through the works of many European thinkers of the time, but Elden singles out certain significant moments. The work of the German jurist and political theorist Johannes Althusius was one of them, where an explicit reference to territory appears, as a bounded space where laws are exercised—"something of an innovation" for an early 17th century manuscript acknowledges Elden.[40] But it is the works of Francis Bacon and even more of Gottfried Wilhelm von Leibniz that he sits with. In his 1625 "On the True Greatness of Kingdoms" Bacon speaks explicitly of the relationship between a kingdom, or the state, and its territory, observing that it is the qualities (rather than the quantity) of the territory and population that matter. He lists four theses on territory, and this is where some early connections to "measurement," "calculation," and "charts" as *state* practices of control emerge.[41] Not much later, yet after the Treaty of Westphalia (1643-48)—which is by many considered as the foundational moment of this type the territorial character of the nation-state[42]—Leibniz delivers a nuanced treatment of territory, differentiating between levels of power (such as military vs legal) and went on to provide an early definition of sovereignty explicitly tied to territory.[43] In Elden's words: "Leibniz's suggestion that the sovereign is he 'who is master of a territory' is a fundamental moment in the development of Western political thought."[44] That is all to say that *territory*, as we understand the concept today, starts consolidating around the mid 17th century in Western political thought. And with Bacon's references to measurements and maps of the state, the relationship to practices of measurement also begins to be consolidated. In addition, Elden notes that France has a special place in this history. He elaborates on early cartographic boundary work after the 1659 Treaty of the Pyrenees, border fortifications by Sébastien le Prestre de Vauban, maps by the Cassini family, and a more general restructuring of space away from its traditional understanding. Although he recognizes that the project is "not confined to the cartographic," Elden, as much of the literature, exhausts his analysis looking at cartography, longitude-latitude measurements, and border tracing.[45] Thus, the more general "restructuring of space" that Elden refers to remains unclear. In this context, which I have now shown how it is significant, Chandra Mukerji goes further to explore the calculative-administrative side of this restructuring.[46]

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[38] By way of example, note that Cockburn and colleagues, in studying the practices of stewardship, attend to results pertaining to protection, conservation, or sustainability good practices but not to what these practices mean for relations of power and space. Cockburn et al, "The Meaning and Practice of Stewardship in South Africa," 2019.

[39] Elden, *The Birth of Territory*, 2013: 322.

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[40] Elden, *The Birth of Territory*, 2013: 285.

[41] Elden, *The Birth of Territory*, 2013: 288-9.

[42] Though for more recent revisions see Teschke, *The Myth of 1648*, 2003; Milton, "Guarantee and Intervention," 2019.

[43] Elden, *The Birth of Territory*, 2013: 315-20. Elden refers to two 1677 texts by Leibniz: "De Jure Suprematus ac Légations Principum Germaniae" and "Entrétiens de Philarete et d'Eugène sur la question du temps agitée à Nimwègue touchant le droit d'ambassade des électeurs et princes de l'empire."

[44] Elden, *The Birth of Territory*, 2013: 321.

Over two books and numerous articles and chapters, Mukerji studies large-scale environmental engineering and land management projects in 17th century France, in the years of Louis XIV.[47] Here, I will mostly work with her researches on the Great Forestry Survey of 1669-1671 and the construction of the Canal du Midi that was commissioned in 1666 and opened in the 1680s. The first was an administrative forest reform in the area of the Midi-Pyrenees with the aim to assess the resources available to the kingdom. The second was an infrastructural project of military and commercial scope, in an attempt to connect the Mediterranean with the Atlantic via a navigable canal in the region of Languedoc. I focus on these two because Mukerji has herself approached them through the lens of stewardship politics, and their analysis as such crystallizes around the same time.[48]

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[45] Elden, *The Birth of Territory*, 2013: 325-6.

[46] However, I need to note that her reference is to "territoriality" and "territorial politics," rather than "territory" as a spatial-politico-geographic concept, a point to which I will return.

[47] I refer to all of Mukerji's works written in 1997, 2002, 2005, 2007, 2009, and 2010, a full list of which can be found in my list of bibliographic references at the end of this document. This is basically the material I study for the development of this subsection.

[48] The concepts of stewardship and stewardship politics are less visible in Mukerji's earlier works, and become increasingly used towards these two works in the late 2000s.

How does Mukerji understand stewardship? She is not really explaining the 17th century perceived meaning of the concept, but works around it explaining what the politics of stewardship looked like and where they were based.[49] According to her, the logics of stewardship had both religious cause and undertones.[50] Stewardship of land and nature as a moral duty emerged in France at the turn of the 17th century after the wars of religion that had affected much of the countryside and its people.[51] The idea then was to reinstate peace and restore the environment as the garden given from God—restoring Eden—and subsequently establish a nature tamed and perfected.[52] For this to be translated from a religious/ethical philosophy to a political one and subsequently to a governance methodology, the epistemic infrastructures start coming at play. A string of humanist authors that included Charles Estienne and Jean Liebault in mid 16th century, Bernard Palissy in late 16th century, and most importantly Olivier de Serres in early 17th, passed along and formulated a political philosophy around land-management. These authors connected the protestant *mesnagement* gardening tradition into a more general philosophy to treat and manage land.[53] For philosopher Michel Serres: "stewardship was not only a profitable and virtuous quality in men but also the basis for good government, and the source and mark of effective leadership."[54] Because of its focus on land, the restoration of nature, and even the making of a second nature where necessary, this political philosophy had a latent territorial potential. It was Louis XIV's infamous minister of the navy and the treasury, Jean-Baptiste Colbert, who would tap into this and utilize the concept through a more secular understanding than stewardship initially had.

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[49] According to Mukerji's translation of sources she quotes in at least two cases, the word existed and was used in political texts and correspondence. See Mukerji, "The Great Forestry Survey of 1669-1671," 2007: 231 and Mukerji, *Impossible Engineering*, 2009: 24.

[50] See also Berry, *Environmental stewardship*, 2006; Kiser, "The garden of St. Francis," 2003.

[51] Mukerji notes that "stewardship reasoning was being used in other parts of Europe as well, importantly used as a justification for colonial expansion." In Mukerji, *Impossible Engineering*, 2009: 236, note 34.

[52] Mukerji, "Material Practices of Domination and Techniques of Western Power," 2002; Mukerji, "The Great Forestry Survey of 1669-1671," 2007; Mukerji, *Impossible Engineering*, 2009: 22, 195, 197.

[53] Mukerji, "Material Practices of Domination and Techniques of Western Power," 2002.

[54] As quoted in Mukerji, *Impossible Engineering*, 2009: 24.

For Colbert, stewardship meant a strategic reordering of biogeophysical entities, nature and the terrain, which may not be geared towards war, but towards material improvements (to nature itself[55]), infrastructural betterment, administrative rationality, and eventually the assertion of the king's (and the state's) central authority. As Mukerji puts it, he knew that "by mesnagement principles, the first act of rational land governance was to measure the land" and gain "precise knowledge of the land, its properties, its flora, and fauna."[56] This requirement begins to shape the epistemic infrastructures I am interested in here. In both projects I am looking at, Colbert had to bring together "inter-disciplinary" groups of scientists, engineers, and experts and combine their knowledge to frame what stewardship and mesnagement would mean in each case according to the landscape, the place, and the occasion. In the example of the Great Forestry Survey, the inspecting groups included at least a forester who would assess the health of trees and two surveyors to complete the measurement of forest parcels and their drawing up in diagrammatic maps.[57] As is expected, in the Canal du Midi the range of disciplines was greater: military surveyors, academic cartographers and mathematicians/astronomers, and civil surveyors were all brought together. In fact, "under Colbert's ministry, the French state acted as an 'intellectual incubator' for geographic work."[58] In both cases, but in varying degrees, the formal knowledge of this groups was combined and synthesized with the vernacular and place-specific knowledge of the local men and women who either testified (in the case of the Survey) or directly contributed (in the case of the Canal). Because of stewardship's and mesnagement's focus on land management, the epistemic focus of these "inter-disciplinary" groups was revolving around spatial practices, which in turn informed the territorial orientation of politics that Mukerji argues about.

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[55] This is different than Foucault's reference to the manipulation of the environment as a biopolitical technique targeting the well-being of populations.

[56] Mukerji, *Impossible Engineering*, 2009: 27-8.

[57] They were accompanied by a political representative and guards. Mukerji, "The Great Forestry Survey of 1669-1671," 2007.

[58] Mukerji, *Impossible Engineering*, 2009: 28.

Passing on to a second point: For a large organization, such as the French state, stewardship did not make sense only as a motivational narrative for those who were charged with the responsibility of land-management, who in this case were the nobles in each area.[59] To be sure, it became particularly useful as a justificatory narrative for the whole apparatus of central government functioning under Louis XIV to gain access and intervene in these lands, and check if the nobles were indeed taking good care of God's garden.[60] But even for that, an accountability apparatus needed to be set up. The Great Forestry Survey did just that, by establishing an archive of previous and current usage of the forests in France. Small groups of surveyors, foresters and political representatives visited places, mapped what was and was not there, determined culpability, and imposed fines. Subsequently, based on these archives of who was a good steward and who was not, forestry officials developed regulations defining areas for protection and use. In this reform, the main opponents were the nobles who had been using the king's lands at their will. The administrative power that stewardship politics installed, Mukerji argues, was one of the factors that took power from the nobility and passed it on to the bureaucrats of the state, and in the way consolidated state power as power over territory.[61] But a point needs to be made with regards to the relationship between territory and calculation here, that

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[59] In principle, lands and estates across France were the king's property but were practically in the hands of the nobility who managed them in the king's name. Mukerji, "The Great Forestry Survey of 1669-1671," 2007; Mukerji, *Impossible Engineering*, 2009: chapter 2.

[60] Mukerji, "Stewardship Politics and the Control of Wild Weather," 2007; Mukerji, "The Great Forestry Survey of 1669-1671," 2007.

[61] Mukerji, "Material Practices of Domination and Techniques of Western Power," 2002, Mukerji, "Dominion, Demonstration and Domination," 2005.

Mukerji does not draw despite her attentiveness to the epistemic power of mesnagement politics. The power was only indirectly connected to stewardship as the king's and God's will; it was the assemblage of information—"intelligence" as one of Mukerji's sources characteristically put it[62]—that made the difference. The nobles could not resist the reform (although some tried), not only because there was the king—and God—behind it, but because they had no control over the production of information of what was considered healthy and "justifiably cut"—something that the bureaucrat surveyors and scientists defined without cognitive help from ministers or the king. *Stewardship begot accountability which brought governance*, but this string stood upon the production of *calculative reason that created political territory*.

But maybe the most significant aspect of the epistemic infrastructures of stewardship in the cases I am following has been a characteristic of "place embeddedness" of the apparatus of monitoring and calculation. Administrative and calculative governance are often thought as mechanisms of distanced and abstracted power.[63] But in the Pyrenees and Languedoc, we see a rather different story. During the Forestry Survey officials walked all regional forests and settlements one by one, interviewing locals (from elites to peasants) on their way. In a method that we would today call "ethnographic," they kept notes from the indigenous practices in regions they did not know how they functioned (such as semi-republic peasant communities in the mountains), and even accepted their vernacular land practices as "good stewardship" despite them not being formally known before.[64] Importantly, their mapping practice was diagrammatic and place specific, that did not work “at a distance” as Brunno Latour’s immutable mobiles would have it.[65] To make this point, Mukerji explains that mapping and surveying techniques varied in 17th century France and they were not all about abstract mathematization of longitude and latitude and the making of graceful Atlases. The latter were mostly academic practices. In contrast, civil surveyors—the lowest ranking engineers of the period—made simpler and less precise maps to “set out fields, orchards, trees, gardens, and mills [that] did not need to be accurate because they described places that were already well known” and that would also be sufficient to trace later in the archive for accountability I sketched previously.[66] At the same time, in the construction work of the Canal du Midi, local vernacular knowledge was utilized hand in hand to formal and academic practices. Locals workers that included women laborers—who took up the work of engineers—employed techniques of controlling and using water that was practiced in the region, as well as local knowledge about the soils and the weather in the area.[67] The significance here is not just the intelligence-in-aggregate that Mukerji points to[68], but also the fact that this embeddedness was part of the power and was what made the power “territorial”—and I would also claim more “cunning.” Forming consensus with the locals the administrative apparatus in both examples put them to work for a king they many times loathed (especially in the mountains).

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[62] Mukerji quotes a 1701 text by Veryard, see Mukerji, "The Great Forestry Survey of 1669-1671," 2007: 234.

[63] On this regard, Mukerji explicitly references the works of Merchant, *The Death of Nature*, 1980 and Scott, *Seeing Like a State*, 1998, advancing her argument in distinction to theirs.

[64] In Mukerji, "The Great Forestry Survey of 1669-1671," 2007: 247 we read: "Froidour [a chief-forester official under Colbert] might not have known about the peasant republics that he passed through, but he recognized their effective forms of resource management, and found many mountain villagers to be better stewards than Marquis and his associates. Ironically, plantation agriculture in the Pyrenees in this period was not an artifact of the reform. It was indigenous practice."

Mukerji devotes a section of her book and a separate article to develop her insights on impersonal rule and the power of logistics that result (among other things) from stewardship politics and which include natural knowledge through calculation.[69] That is to say, she obviously elaborates on the issue of power in her work. But her connections to territory are more ambiguous. Although she repeatedly speaks of territoriality in her works, she is more interested in the creation of a *culture* of administration geared towards land management, natural order, and the claiming of space in territorial scale and scope. Mukerji stops a step short from asserting that this culture also created territory by rendering it into something specific, making certain aspects of it visible (calculable), creating a model of it upon the image of which interventions were made. That is, territory which is not a matter of annexing lands by sword, extending the borders and boundaries of a kingdom, but about the internal turn to manage what already is within the boundaries. In addition, this is not a power of property or law, but the power associated with the technical and calculative aspect of territory, a peculiar form of sovereignty that people like Riquet (the entrepreneur behind the Canal), Clerville and Vauban (two military engineers who continued the work in the Canal) and Colbert—the entrepreneurs and administrators—were gaining. For example, Riquet, working through the logics of stewardship politics, started acquiring (and realizing that he had) power that Colbert had not expected and thus could pose a threat: Riquet was bringing together workers who changed nature and their lifestyles through an engineering artifact that was initially deemed impossible by the standards of its time.[70] Mukerji concludes that the king and his trusted court eventually limited the influence of these emerging technocrats-entrepreneurs writing that the traditional authority of the king had the final word. But was it really like this? Even when Colbert had realized how Riquet was dangerous, he was sympathetic to him and did not want him to abandon the project. The epistemic network

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[65] Latour, *Science in Action*, 1987.

[66] Carolyne Merchant’s and James C Scott’s assumption about the abstract, cartographic, administrative practices that made the Pyrenees more visible to the state and reduced the local practices—a view that Mukerji contests—can be considered as partly induced by the great narratives of the Scientific Revolution. Mukerji’s revision of this story shows how the Great Forestry Reform practices were actually against the nobles (not the peasants) and that indigenous knowledge was utilized (not dismissed). It seems then, that reworking or undoing the grand narrative of the Scientific Revolution also means that some *grand narratives of critical theory* may also need to be reworked or undone accordingly.

[67] Mukerji, *Impossible Engineering*, 2009: 117-121, 136-47.

[68] Mukerji, *Impossible Engineering*, 2009: 203.

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[69] Mukerji, *Impossible Engineering*, 2009: 214-9; and Mukerji, "The Territorial State as a Figured World of Power," 2010.

[70] Mukerji, Impossible Engineering, 2009: 174, 212-4.

Riquet had set up was continuing to work reshaping land and creating political territory and the king's administrators did not stop him. *Power lied in the associations*, as Latour would insist, and as I will elaborate in Chapter 3 in the context of a hospitality organization performing environmental stewardship in contemporary Greece.[71] That is, both Riquet and Colbert (and everything they represented) were necessary for the creation of political territory. In any case, if Mukerji conceptualizes this type of logistical power, then it's important to underscore that this power works over space and territory, and only through that over people.

Stewardship and extrastate politics in late 20th century global west

What has been described above is the manifestation of stewardship politics through the emerging power of logistics and environmental infrastructure and calculation, and these forms of power seem to well persist in the 20th century, yet empowering different actors on the way: they become less the object of a state- and more that of an inter- and extra-state apparatus.[72] But before I am able to discuss these increasingly influential actors and their epistemic infrastructures, I will put the understanding of the concept again in context.

A series of factors that included reactions to industrialization and extended deforestation in the 19th century in developed countries, were grafted with the pre-existing Christian ideas of stewardship to give rise to a sentiment for the protection of the environment.[73] This was in its dawn mostly a concern of the elites and a rather utilitarian-economic approach to the environment.[74] But it increasingly became a wider concern in the developed world and one that started highlighting the human "responsibility" for the non-excessive and sustainable treatment of natural resources. The 1972 Stockholm Declaration of the UN Conference on the Human Environment (UNCHE), declared that "the protection and improvement of the human environment is … the duty of all Governments" and "a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat."[75] The term stewardship itself might not have been mentioned, but the logics of it underpins the statements.[76] However, the Stockholm Declaration was not met with consensus by the larger parts of the "Second" and the "Third" worlds—in part because the latter read the concept of environmental stewardship as implicitly neocolonial.[77] Despite the lack of consensus, in the early 1990s, Mary Ann Beavis (referring mostly to the North American context) observed that

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[71] Latour, *Science in Action*, 1987.

[72] For the notion of extrastatecraft see: Easterling, *Extrastatecraft*, 2014. The jump from the 17th to the 20th century may feel abrupt. For the purpose of this preliminary exploration on the genealogy of stewardship, I chose to focus on two moments that I understand as foundational after my readings: A genesis of territorial politics that coincide with a political philosophy of stewardship and empowers state power on the one hand, and an intense upscaling of the claims of stewardship that empowers non-state power on the other.

> "in the planning and policy discourse of the late 1980s and early 1990s, the term 'stewardship' was frequently mentioned in discussions of environmental issues and sustainable development to describe the appropriate human-environmental relationship. This usage has endured and developed over the years, to the point that 'stewardship' has effectively become the unofficial environmental ethic—and sometimes the official environmental ethic—of governments at all levels, of policymakers, of planners, and of some grassroots environmental organizations."[78]

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[73] Falkner & Buzan, "The emergence of environmental stewardship," 2019.

[74] Falkner & Buzan, "The emergence of environmental stewardship," 2019. Examples of the first environmental international treaties mentioned by Falkner and Buzan are the 1902 Convention for the Protection of Birds Useful to Agriculture and the 1911 North Pacific Fur Seal Convention.

[75] See: UNCHE, Report, 1972. Later documents, and most significantly the Agenda 21 did mention and built upon the concept.

[76] A problem emerges here: Is "environmentalism politics" and "(environmental) stewardship politics" at this time one and the same thing? From this small-scale literature review I conducted in the context of writing this chapter, I find that they are not: when stewardship is invoked, interventions and calculation are usually more ambitious and proactive.

[77] Falkner & Buzan, "The emergence of environmental stewardship," 2019.

[78] The quote is in Beavies, "Environmental Stewardship in History, Theory and Practice," 1994: 3. But the author begins to elaborate this observation already in Beavis, "Stewardship, Planning and Public Policy," 1991.

In 1992, the series of environment related meetings and the documents they produced—the UN Conference on Environment and Development (UNCED), the UN Framework Convention on Climate Change (UNFCCC), and especially the Agenda 21— put the concept even more firmly in the agenda. So much so that political scientists Robert Falkner and Barry Buzan in their review state that "By the end of the 20th century, environmental stewardship had become clearly identifiable as an emerging primary institution of international society."[79] What is important to highlight here is that environmental stewardship becomes an issue with planetary connotations, and therefore a major issue of not anyone state, but of an ensemble of global actors, states included.

This aspect of scale, along with a subsequent development with regards to the associated actors connected to environmental stewardship are first steps to start enquiring about the epistemic infrastructures of stewardship politics as they are developed after the 1990s. Apart from states, which still retain a central role—but for many like Falkner and Buzan represent an obsolete dynamic—, two types of actors become explicitly associated with environmental stewardship: (transnational) environmental NGOs and (transnational) corporations. On the one hand ENGOs started acquiring increased legitimacy after the 1992 UN Rio meetings: this was one of the first times that ENGOs were allowed to take part in the official procedures and negotiations. Besides the important role that organizations such as the WWF, Greenpeace, and the Sierra Club actually played during the meeting, the UNFCCC acknowledged the potential role of ENGOs in dedicated articles.[80] Moreover, ENGO members were equal in numbers to that of state and interstate representatives, pointing to an important transition in the way international environmental politics were unfolding: from state policy to a hybrid political body of state, interstate, and extrastate (for-profit or not) organizations. Since then, NGOs have proliferated and their role has been increasingly influential: Apart from shaping agendas and communicating issues with a wider public, appealing to values, raising awareness, and mobilizing civil society, NGOs gain access to the scientific basis of environmental debates—which to a certain extent they shape with their own researchers and funding of research programs—as well as to applied policy.[81] In this way NGOs create power that is more than criticism from the margins; these organizations become "actors at the centre of shifting meanings and practices of environmental management."[82] Indeed, despite their often different and divergent origins, objectives and ideological bases, NGOs have managed to form a broad consensus important environmental issues, avoiding the fragmentation witnessed in other areas.[83] Thus, around the turn of the millennium, social scientists Clair Gough and Simon Shackley already recognize the participation of NGOs in a—then newly forming—epistemic community of broad consensus as a notable phenomenon of applied policy for the environment.[84] On the other hand, corporations also became increasingly consequential actors, engaging proactively with environmental stewardship. The Agenda 21 document included specific clauses on corporations and enterprises, introducing the concept of product stewardship (reduction of environmental risks associated with the design, manufacturing, distribution, use, or disposal of products) and including an entire chapter on the role of Business and Industry, from which I quote:

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[79] Falkner & Buzan, "The emergence of environmental stewardship," 2019: 141.

[80] Giorgetti, "The Role of Nongovernmental Organizations in the Climate Change Negotiations," 1998.

> "Business and industry, including transnational corporations, should recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development. Some enlightened leaders of enterprises

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[81] Szarka, "Non-governmental Organisations and Citizen Action on Climate Change," 2014.

[82] Eden, "The work of environmental governance networks," 2009: 392

[83] Giorgetti, "The Role of Nongovernmental Organizations in the Climate Change Negotiations," 1998. Organizations of 'mainstream ideology,' 'deep ecology,' or 'radical environmentalism' may organise together either by compromising on less radical solutions or by pursuing tactics that are different from those to which they are accustomed.

[84] Gough & Shackley, "The respectable politics of climate change," 2001.

> are already implementing 'responsible care' and product stewardship policies and programmes."[85]

As administration researchers Michael Berry and Dennis Rondinelli agued in 1998, corporations shifted from an attitude of non-compliance towards environmental regulation in the 1960s and 1970s, to one of reactionary compliance in the 1980s, and eventually to one of proactive environmental stewardship in the 1990s. Apart from issues such as product stewardship and waste minimization, corporations started writing company environmental policy statements and initiated schemes for Monitoring, Auditing, and Reporting.[86] In light of the above it becomes evident that extrastate actors after the 1990s are not just responding to state regulation, but they take initiative and shape their own agendas.

Roughly following the schema of the previous section, and after addressing the multiplicity of actors in a sort of multi-stakeholder formation of epistemic community, I will now turn to two more aspects related to the epistemic infrastructures of stewardship, this time as they take shape around the 1990s. I will focus on monitoring and calculation on the one hand and accountability on the other, and will ask how they leave spatial, territorial traces. Governmental and international environmental treaties and regulations rose sharply in the postwar period. Thus, it became important to trace which states followed the commitments and which not. For example the UNFCCC included an article on commitments of signatory parties, stating that they should "develop, periodically update, publish and make available to the Conference of the Parties … national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol."[87] This meant that environmental data should not only be produced but also made commensurable, standardized, presented, and compared. On the ground this took different forms, and in many occasions ENGOs took over. On the ground in Greece, the first comprehensive monitoring and protection plan for any forest in the country was completed for the Dadia forest in the NE part of the country by collaborating biologists, ornithologists, and foresters associated with WWF Greece. The local branch of the global organization has been surveying the forest and collecting information systematically since 1992, immediately after its establishment in 1991. But even before that, in 1979, WWF International had started one of its oldest scientific programs in the Dadia forest, which culminated in a proposal for the legal designation of the forest, which was ratified in 1980 after lobbying by the NGO.[88] In both cases and especially in the latter one it becomes clear how environmental data and calculation from state or non-state actors renders specific images (models/ maps) of territory which in turn shape it back.

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[85] UNCED, Agenda 21, 1992: Chapter 30, article 3.

[86] Berry & Rondinelli, "Proactive corporate environmental management," 1998.

[87] UNFCCC, 1992: 5.

Another arrangement of research and governance, one that becomes more explicitly normative than surveying and monitoring, is practices and institutions of eco-certifications. Eco-certifications emerged in the 1980s, but mainly proliferated throughout the 1990s and especially after the Rio Earth Summit in 1992.[89] Scholars have noted that in the absence of overarching state or interstate regulation or standardization, eco-certifications operate within a stratified free market of ecolabels which features big and small players, sometimes arranged in hemispherical alliances.[90] They function as what environmental policy scholar Benjamin Cashore calls Non-State Market-Driven Governance Systems, in essence using the market's supply chain dynamics to create incentives for stakeholders.[91] Creating a reward system for parties complying with a certain set of rules is another way to work towards accountability in the absence of a central state actor: instead of enforcing and coercion, NSMD eco-certification works through persuasion and moral authority. With regards to environmental stewardship, a number of eco-certifications can exemplify the point, maybe most notably the Forest Stewardship Council (FSC) and the Marine Stewardship Council (MSC). The first one was founded in 1993 on the base of work that had started three years earlier by a group of timber users, traders and representatives of environmental and social NGOs, and with joint funding by WWF and B&Q—a UK corporation in the home improvement sector.[92] The second one was initiated in 1996, funded by WWF and Unilever, and modeled after the successful precedence of the FSC.[93] Human geographer Sally Eden analyzes the mechanisms within the FSC that include standard setting, verification and awarding, as well as control and tracing of the certified products within the supply chain. Upon her analysis two brief points are worth outlining, that also bring these instances of epistemic infrastructure in dialogue with the ones described in the previous section. First, an international eco-certification program such as the FSC acknowledges that no standards can be applicable globally. Although baseline standards made for the FSC merge peer-reviewed science, social acceptability or best-practices, and experiential expertise, they still need to be tailored to the specifics of each country, regional condition, or temporal specificity. FSC standards are thus customized so they are "implementable within the operational, political, economic, ecological, climatological and social constraints of forestry, which vary across space and time."[94] This brings to mind the place-embeddedness efforts made in the Great Forestry Survey or the Canal du Midi analyzed by Chandra Mukerji. Second, and interrelated with the first is that, as Sally Eden underscores, the power of the FSC is a product of extended associations and networking. The effort to attract participants is not only to widen the membership base, but also to complicate the stakeholder pool, which will necessitate more boundary work, communication, expertise involvement and will eventually solidify the certification process and practice.[95] This point brings to mind the consensus building I noted again with regards to the place-embedded politics: in the FSC an effort is made for dissenting voices and differing interests to be incorporated and formalized within its structure by extended the associations with stakeholders. Having said the above, the spatial/ territorial traces of certification programs remains unclear. The calculative practices of standard setting and verification that create priorities and order biogeophysical entities provide once more a point to think about. Political geographers Peter Vandergeest and Anusorn Unno elaborate on exactly this theme through empirical research in Thailand and WWF's Aquaculture Stewardship Council, suggesting that certification programs such as the ones above create new forms of extraterritoriality that they call "certification territories" and that, in their case, are not just reminiscent, but specifically follow patterns of earlier colonial-era extraterritorial empires.[96]

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[88] Decision of the National Council for Spatial Planning and Environment 360/76, 13/3/1980. See Poirazidis et al 2002; and "The History of WWF Greece" in https://contentarchive.wwf.gr/wwf-greece-history.

[89] Honey & Stewart, "Introduction," 2002.

[90] Honey & Stewart, "Introduction," 2002. See also: Font, "Environmental certification in tourism and hospitality," 2002.

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[91] Cashore, "Legitimacy and the Privatization of Environmental Governance," 2002.

[92] Eden, "The work of environmental governance networks," 2009.

[93] Constance & Bonanno, "Regulating the global fisheries," 2000.

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[94] Eden, "The work of environmental governance networks," 2009: 388. However, this is not true of other global standards. For example, the "Blue Flag," and eco-label that awards the sustainable treatment of coastlines and beaches, utilizes a universal set of criteria; see Zielinski & Botero, "Myths, misconceptions and the true value of Blue Flag," 2019.

[95] Eden, "The work of environmental governance networks," 2009: 385-7; Latour, *Science in Action*, 1987.

[96] Vandergeest & Unno, "A new extraterritoriality?," 2012. I will further elaborate on such territories in Chapter 1.

Stewardship and Hospitality coming together

Amidst this late 20th century discourse, policymaking, and state and extra-state action that I described above, within which environmental stewardship re-emerged as a concept, also tourism began to be intersecting with more environmentally concerned perspectives. Although the initial discussions on sustainable development in the 1987 Brundtland report did not mention tourism, the subsequent 1992 Agenda 21 did address certain aspects of it, and a follow-up partnership between the World Travel & Tourism Council (WTTC), the United Nations World Tourism Organization (WTO), and the Earth Council (EC) did produce a dedicated "Agenda 21 for the Travel and Tourism Industry."[97] Although much of the emerging discourse on sustainable tourism was about regulating practices and "reducing footprint," there were aspects that would qualify as practices of calculation and intervention, making the connection to stewardship. The proliferation of eco-certifications I referred to earlier as explicit calculative practices over biogeophysical territorial aspects was also made apparent in the tourism and hospitality industry. Commenting in this context, human geographers and tourism policy researchers Martha Honey and Emma Stewart noted that there was a moment in the 1990s when "it seemed that anything was certifiable: accommodations, golf courses, protected areas, boats, operators, and handicrafts."[98] By the early 2000s, the WTO found more than five hundred ecolabels and codes of practice—so many that commentators were noting that they were creating more confusion than clarity as to what exactly each certification addressed.[99] This is also the time that the concept of the Corporate Social Responsibility programs of big hospitality organizations start addressing the environment. At the same time, practices of eco-tourism gained momentum: The intentional use of the term "eco-tourism" had started in the late 1970s, yet these practices took up in the 1980s and mainly in the 1990s, creating new domains for the entanglement between the tourism industry and conservation practices.[100] Thus, from one perspective, tourism/ hospitality and stewardship come together in the context of such practices of sustainable tourism and eco-tourism.

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[97] Aall, "Sustainable Tourism in Practice," 2014.

[98] Honey & Stewart "Introduction," 2002.

[99] Font, "Environmental certification in tourism and hospitality," 2002.

But it would be reductive and limiting for our understanding of the concept if we associated the stewardship-hospitality complex only with these explicitly tourism-related practices. The genealogical stories of calculative practices with regards to stewardship I referred to above, probe us to think more broadly of the "modeling" and "mapping" of the environment that eventually results into the framing of leisurescapes and tourismscapes. Consider this example: Greece, following a mid 1970s EU directive, developed an extensive monitoring program for almost all parts of the coastline that are accessible to bathers or receive development pressures.[101] For 2021 this amounted to 1683 sampling points that were monitored at minimum six times over the year.[102] The state organization "Special Secretariat for Waters," part of the ministry for the Environment, annually updates the so-called "Bathing Water Profiles Registry" measuring quality parameters that have been chosen "in order to protect the environment and public health." What this quote makes visible is that such measurements do not belong only to the domain of the defense of the society (population / public health), but also to that of the defense of the environment. But crucially, one needs to ask: What is measured? These measurements concern the water's suitability for *human bathing*, remapping the coastline in a quadripartite categorization as of "excellent quality," "good quality," "sufficient quality," and "insufficient quality," all referring to whether the biogeophysical environment is

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[100] Aall, "Sustainable Tourism in Practice," 2014.

[101] Directive 76/160/EEC, ratified on December 8, 1975. Although Greece did not implement the directive until 1988, the important date is the first one, since it proves how it predates the concepts of "sustainable tourism," "eco-tourism" etc.

[102] General Secretariat for Natural Environment and Water, Report 2022. http://www.bathingwaterprofiles.gr

"sufficient" for the activity of recreational human bathing. Which, arguably not coincidentally, was—and still is—also the main activity of mass tourism in Greece. The story continues: Acting on frequent criticisms for the inability of state practices to stand up to their role as environmental stewards, ENGOs take this role of monitoring. At this nexus emerges The Blue Flag eco-certification program, which enhances and continues this rendering of the coast as a recreational park for bathing. I will examine this program at length in the next chapter, but the analysis here makes evident that the stewardship-hospitality complex goes much deeper into the calculative mechanisms of state and extra-state actors, and has been framing the environment in ways that are at times more implicit than the apparent intersections of eco-tourism and protected areas.

My analysis has attempted to make clearer under which historical processes types of state and non-state actors, from hospitality corporations to environmental NGOs, come to work together in large-scale environmental calculation and intervention, constituting what I call here the stewardship-hospitality complex. The motivating principle of stewardship, its legitimation through epistemic practices, and its connection to territory and territorial ambitions all emerge as historically produced. The 17th and 18th century management of biogeophysical entities as a form of stewardship directed to both the people and the environment "itself"—albeit as the king's and God's assets—utilized calculative techniques that elevated stewardship into a project of territory, in the contemporary sense of the world. In the 20th century, practices of calculation and management as stewardship referred to a renewed understanding of the environment and were practiced not only by state, but also increasingly by non-state actors. And the same forces that gave rise to such international version of stewardship politics in the late 20th century also gave rise to sustainable tourism and eco-tourism, bringing them closer to environmental management and science after the 1990s. Besides the connection to the production of territory, another thing that becomes apparent in this evolution, is the place-embedded chains of accountability that are formed around practices of stewardship. In each case, the "epistemic infrastructure" is effective only insofar as it succeeds in holding specific actors accountable for their environmental impacts—in the first case, the nobles, in the second case, polluting governments. As it will be shown in the case studies to follow, part of how the stewardship-hospitality complex works is by intervening on such chains of accountability, either re-constructing or diverting them. This, as well as the emphasis on the traces of stewardship on political geography and the technics of territory that I attempted here on a historic-conceptual basis will be grounded in empirical cases. Importantly, however, a genealogy of environmental stewardship remains to be written.

Chapter 1

Flying Flags, Fixing Sands: Rituals of the managed environment and eco-certification territories

In his introduction to *Vermilion Sands*, published in 1973, J. G. Ballard saw in the northern shores of the Mediterranean a “3,000-mile-long linear city that stretches from Gibraltar to Glyfada beach.”[1] His broad stroke testified to a certain uniformity apparent in these coastlines, with regard to both program—since these are the places “where each summer Europe lies on its back in the sun”—as well as the inner space of the subjects’ psyche that Ballard was so interested in.[2] Fifty years later, thousands of these beachfronts fly the so-called “Blue Flag,” a prestigious emblem of eco-certification. The Blue Flags cumulatively mark not only the entire coastline from Spain to Greece, but now almost encircle the entire Mediterranean from Morocco to Turkey and dot many coasts beyond.[3] In one of the certified fronts, somewhere in Greece, a peculiar ceremony takes place: Four hands unfurl the Flag; one pair holds it, while the other prepares to hoist it. As if a national symbol, it does not touch the ground. The flag begins to rise steadily, following the rhythmic splash of the sea—the perpetual anthem of the summer season. Up there, it joins the banners of the nation-state, its union parent, and the hospitality patron. Around the masts below, claps and congratulations dissolve into a series of short statements by a hotelier and elected officials who are later joined by the coast guard, a lifeguard in uniform, eager tourists in volunteer-t-shirts, and bay-leaves-crowned kids, to smile for the year's commemorative photograph. The ceremony feels strangely Ballardian, but it does not come from one of his books. It does, however, speak to a renewed version of the outer and inner space uniformity that the author had observed in the 1970s. The contemporary coastline, marked throughout with Blue Flags, is undoubtedly a product and an outgrowth of the postwar beachscapes that Ballard wrote about, but the very presence of this emblem, I will argue, testifies to qualitative differences in the mentality with which these thousand-mile-long coastal lines are approached and experienced. Without necessarily undoing the mass-tourism landscapes of the Mediterranean sunbelt, the environmental anxieties emergent toward the end of the 20th century complicated the seemingly innocent and quiescent picture of carefree sunbathers. This essay studies the Blue Flag and its associated practices as an entry point to these transformations that refer to both the spatial protocols of coastal leisurescapes and the making of subjects in the global sunbelt.

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[1] Ballard, *Vermilion Sands*, 1973: 7.

[2] Ballard, *Vermilion Sands*, 1973: 7. For Ballard’s interest in the inner space see: Schuyler, “Portrait of the Artist as a Jung Man,” 1993.

[3] The landing page of Blue Flag’s webpage features a world map dotted by the certified coasts; see www.blueflag.global.

Discreetly waving over thousands of beaches around the world, identical blue banners silently testify to a capture of space. They seemingly manifest through standardization and spatial uniformity, but they actually operate through a more complex register of combined symbolic and infrastructural work. Administered to reward the sustainable treatment of the coast, the Blue Flag is one of the best known certifications for beaches. Although it first appeared in the French rivieras, it has now propagated in the oceans and archipelagos of the world. In its yearly announcements, the Denmark-based Foundation for Environmental Education (FEE), the NGO that awards the certificate, composes a list of coasts from around the globe that have met a series of universal requirements regarding the quality of the swimming waters, the environmental management of the beach, the safety services available to the public, and the promotion of environmental awareness.[4] Like all heavy industries, tourism has developed its certificates and standards, ordering not only natures, but also environmental experiences, from the Mediterranean to the Caribbean. But unlike other quality and environmental badges that mostly operate as invisible background protocols, the Blue Flag reaches registers beyond its enviro-technical aspects. In Greece, the Flag sparks around it a series of performative celebrations, elaborate and patterned enough to be considered as rituals. In quasi-scripted and often-televised processions, hoteliers and operators join elected and coast guard officials to hoist the Blue Flag along the national and the European Union banners. How are we to make sense of adults dressing up as ancient Greeks, children emerging from the water holding the Blue Flag, and fishermen delivering Flags to mayors? And how to make sense of the certification's simultaneous infrastructural operation and its performative celebration? Looking back in the 20th century from the cusp of the millennium, anthropologist Michael Taussig claimed that "the beach is the ultimate fantasy space where nature and carnival blend as prehistory in the dialectical image of modernity."[5] Looking to the other side, towards the 21st century, I discuss here that the globalized spatial product that is the beach is not only Taussig's fantasy space, but also becomes the material space for an *eco*-modern remaking of nature, carnival, and their blend.[6] Blue banners, rituals, and water quality calculations taken together, paint an image of the beach very different from the imaginaries of paradisic palms hanging over golden sands and calm waters—flying flags tell tales of other developments at play.

Here, I assemble the technical as well as the performative practices of the Blue Flag in Greece, as these manifest in the associated discourses and ephemera. I read them as cultural texts, suggesting that they are symptomatic of contemporary transformations in the coastline of the global sunbelt—of which Greece is a heavily invested node. First I discuss how the Blue Flag not a "standard" standard, functioning beyond the realm of rationality and material returns. Then, drawing on the rich symbolism invested in the Flag and the performativity surrounding it, I show that it succeeds in assembling around it a sort of environmental community. Observing the function of the Blue Flag as it eclipses the biogeophysical and foregrounds simultaneously the leisurely human experience and notions of environmental care, I argue that imaginaries of "the host" are mixing with imaginaries of "the environmental steward." Importantly, I conclude, aspects of territory and eco-sovereignty are reworked in the way. The Blue Flags provide evidence of an ongoing and intensifying development that renders environmental protection as a function of the tourism and hospitality apparatus, remaking both hosts and eco-territories.

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[4] According to its stated mission, the Blue Flag works to be the "leading program promoting sound environmental education and sustainable management of beaches, marinas and boating operators worldwide." See FEE, "Blue Flag Beach Criteria and Explanatory Notes," 2021.

[5] Taussig, "The Beach (A Fantasy)," 2000: 258.

[6] For the concept of spatial products see: Easterling, *Enduring Innocence*, 2005.

A deviating standard

Although a well-known certification program, the Blue Flag differs from the standard profile of other certifications. Certifications and standards are thought to be profound infrastructures of rationalization and technical instrumentality, applied in the pursuit of optimization and material goals. They both catalyze and are catalyzed by modernity and globalization, and have been on the rise especially in the postwar world.[7] As I elaborated in chapter 1, various forms of non-state certification and standardization initiatives emerged after the 1980s in the environmental realm, reflecting both the increasing calls for environmental protection and the declining involvement of states in international markets and environmental regulation. In the field of tourism and recreation the first labels appeared around the same time and took off in the 1990s as awareness regarding the ecological impacts of tourist practices was rising. Within this landscape, the Blue Flag was an early example: introduced in 1985 as an environmental awareness program addressed to school-kids in France, it quickly expanded to other European coasts and, after 2001, to the rest of the five continents, counting today more than five thousand accredited sites. On the level of its narrative the Blue Flag remains faithful to some qualifications of certificates and standards, yet a closer look will expose important differences.

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[7] Timmermans & Epstein, "A World of Standards but not a Standard World," 2010: 71. Although standardization and certification have some important differences, they are both processes constructing uniformities. Therefore, although the analytical focus of this essay is on an eco-certification label, I draw some theoretical insights from the literature on standards. See also: Bowker & Star, *Sorting Things Out*, 1999.

One point that begins to qualify this statement has to do with visibility. As STS scholars Martha Lampland and Susan Leigh Star argue, the more standards become embedded in the practices they organize, the less visible they are, operating in a background layer as mundane infrastructures.[8] Their observation fits well with the myriad technical protocols such as the distance between rail tracks and medical classifications that we rarely know the specifics of, as well as with the signed and framed certificates at the back of a manager's office of which the significance is rarely noticed, let alone questioned. As a global eco-certification protocol, the Blue Flag is indeed a set of standard guidelines, but its global visibility and yearly celebration in Greece suggest it doesn't fall neatly into the category of its eclipsed and "mundane" counterparts. If it is the technicality and mere economic instrumentality of standards that push them in the background, then the attention that the Blue Flag receives testifies to the heavy cultural register through which it operates.

Eco-certification programs are in principle voluntary, consensus-based mechanisms, but as sociologists Stefan Timmermans and Steven Epstein observe for standards more generally, “they become de jure mandatory, producing a neoliberal government-industry hybrid of governance.”[9] As I recounted in chapter 1, Benjamin Cashore identified this type of voluntary regulation as market-based and market-incentivized, what he called Non-State Market-Driven (NSMD) governance systems.[10] Focusing on the “Market-Driven” part of the concept, certifications are framed as instruments of economic rationality. In this view, organizations act as rational economic actors and pursue certification in accordance to their short-term material interests, since acquiring certification may provide market access, visibility, or price premiums.[11]

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[8] Lampland & Star, "Reckoning with Standards," 2009.

However, the economic rationality perspective is insufficient to explain the distribution and proliferation of the Blue Flags. In Greece, they fly in many locations across the country, counting 581 beaches for the 2022 season—the second largest number among the 43 participating countries. Since 1989, when the Blue Flag was first introduced in the Greek coastline, it has a consistently upward trajectory with more and more beaches joining the label, and with only a minor decrease around the peak of the Greek economic recession that followed the eurocrisis.[12] The fact that its trajectory does not necessarily follow the shifting touristic and GDP flows, is a first indication that the Blue Flag cannot be explained solely as a matter of economic instrumentality. A second comes from the statements of stakeholders, as they speak to the media during the celebrations I analyzed. Although they may refer to “development” and “improved hospitality services”, they rarely connect this to material gains of their businesses or municipalities. Actually, empirical research carried out in different contexts and around the world found no correlation between accreditation and economic gains of beach operators.[13] In addition, a third clue comes from the geographic distribution of the roughly six hundred awarded beaches: For 2022, I observe that only half of them are found in the intensive fronts of tourism activity (such as in northern Crete, Cephalonia, Rhodes, Kos), while the other half of the awards are granted within the non-touristic regions. More precisely, less than half of the Blue Flags are granted to luxury hotel operated beaches, while the rest are operated by small-scale beach operators and municipalities. However, considering the costs that the Blue Flag entails (water sampling and testing, infrastructure installment and maintenance), municipalities do not expect material gains by pursuing the program. Thus, again, economic instrumentality approaches do not seem satisfactory.

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[9] Timmermans & Epstein, “A World of Standards but not a Standard World,” 2010: 80

[10] Cashore, “Legitimacy and the Privatization of Environmental Governance,” 2002.

[11] For example see: Raynolds, “Fair Trade Flowers,” 2012. The Blue Flag is also mainly approached in this way in literature.

[12] Synthesized with information from HSPN, “The Blue Flag,” 2022; and Kourousias, Flagging the beach?, 2015.

Moreover, the performative celebrations around the Flag that sometimes pop up—which I briefly teased in the opening of the chapter and will analyze at length later—adds one more factor that does not seem to have anything to do with short-term material concerns, and stands in contradiction with rationality and efficiency. This speaks to a detachment between formal structures and practical, economic or technical activity. In their seminal 1977 paper, sociologists John Meyer and Brian Rowan argue that as organizations become more complex, certain formal structures become institutional myths and need to be attended to for the organization to survive and thrive, even if they at times seem to contradict the organization's immediate material efficiency.[14] Following this logic, others in sociology and organization studies have dealt extensively with the question of standardization: Paul di Maggio and Walter Powel studied bureaucratization and standardization and argue that organizations pursue isomorphism with their environment, regardless of whether this makes them more efficient. As they write, “the concept of institutional isomorphism is a useful tool for understanding the politics and ceremony that pervade much modern organizational life.”[15] Indeed, combining their idea of mimetic isomorphism, with Meyer and Rowan’s idea that organizations attach to formal myths in an effort to construct longer term institutional goals and values, some aspects of the practices around the Blue Flag are explained well. That is, if one was to focus only on the uptake of the certification from the hospitality industry, both the award’s costly nature and its ritualistic aspects would be more justifiable, as the hotels are trying to keep up with a general culture of environmentalism, certification, corporate responsibility etc, and base their value systems upon such principles. Moreover, this lens would suffice to explain the fact that smaller hotels are trying to keep up with certifications and the Blue Flag, despite not being able to justify costs in the same way that luxury and 5-star hotels do. Nevertheless, as I discussed earlier, the private hospitality industry and large organizations are only half of the Blue Flag story. Costs and celebrations alike are also taken up by municipalities and small beach operators across non-touristic parts of the country’s coastline.

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[13] See: McKenna et al, "Blue Flag or Red Herring," 2011; and Klein & Dodds, "Blue Flag beach certification," 2018. Vasileios Kourousias reports that some of his respondents believed that tourist operators promote awarded destinations, which is their motivation to join the program. The participants' faith in economic returns when no proof of economic returns exists is, importantly, a cultural clue in itself. Kourousias, Flagging the beach?, 2015.

[14] Meyer & Rowan, "Institutionalized Organizations," 1977. This school of thought in cultural analysis is known as New Institutionalism.

The fact that the Blue Flag and its rituals are found without significant differentiation across the private and public sector, suggests that they address more universal cultural clues, which are neither limited to a certain type of institutions (say, hospitality corporations), nor are “empty” signifiers for material or marketing purposes. Writing on his concept of the Non-State Market-Driven mechanisms, Benjamin Cashore notes that “a focus on material-based profit-maximizing motivations alone, while significant, misses a more complex dynamic among NSMD governance systems’ external audiences and the types of legitimacy-granting evaluations that occur.”[16] He suggests that legitimacy may be coming from other, moral or cognitive factors too. Watching the recorded performative events, and the statements of the participants from either part of the spectrum (hotels/municipalities), they do seem to be subscribing to and motivated by a process of enduring cultural meaning. Culture emerges as a significant element that is more than just a legitimating constraint.[17] This is why it makes sense to approach and attempt to interpret the performative and symbolic happenings around the Blue Flags as cultural texts.

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[15] di Maggio & Powel, “The iron cage revisited,” 1984: 150.

[16] Cashore, “Legitimacy and the Privatization of Environmental Governance,” 2002: 522.

Performing the Blue Flags

Every year around May, a list of Blue Flag awardees is announced in the Greek media: quick flyovers over color-saturated shores celebrate what is framed as a national achievement. The total number of the beaches, along with "top10" preferences of locals and foreigners regularly make it to the evening news, while regions compete for the most Blue Flags and local news outlets take pride in their region's ranking. The Hellenic Society for the Protection of Nature (HSPN), the national operator of the program in Greece, organizes an award ceremony event, hosting representatives from ministries, local authorities, NGOs, and professional unions related to tourism businesses.[18] The ceremony, usually taking place at one of the awarded beaches, expectedly features cliché statements around the protection of the environment, but it also includes more performative elements, such as children dressed in Blue Flag t-shirts carrying the Flag, or women in regional traditional clothing carrying labels with the number of the Blue Flags awarded in the respective region. Although these elements tell a part of the story, my focus will rather be on the informal yearly events celebrating the newly acquired certification, which take place in some of the awarded beaches around Greece and are organized by the beach operators.

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[17] See: Alexander & Smith, "The Strong Program in Cultural Sociology," 2003: 23.

[18] The HSPN is an early post-war environmental NGO, advocating for environmental conservation and education in Greece.

The opening paragraph of the chapter captured one of these moments as it unfolded in the northern shores of Crete—one of the most intensified fronts of the Greek tourism industry—in one of the hotels implicated in the conflicts over sand and coastline interventions that the Introduction began with. Similarly to many others, this ceremony was held in the outdoor spaces of a five-star hotel, under the gaze of curious tourists and beachgoers. In other occasions the event unfolds in the public space of municipal beaches. The participating crowd varies, but it always includes the hotelier or operator, together with representatives from the municipal authority and the coast guard. Some times the lifeguard—necessary for the certification to be granted— joins along, together with volunteers and the participants' friends and families. A few local journalists also stand by, capturing the scene. In some cases, before it is hoisted, the Blue Flag is reverently toured around the beach, is displayed in full-show before the bathers, or emerges from the water in the hands of children. The processions end below three masts. The Blue Flag is attached and hoisted with care. As it reaches the top, it joins a couple more banners in differing arrangements: that of the nation-state, that of the European Union, and that of the hotel patron. The beach manager, the elected official, and the coast guard officer take turns reflecting on the importance of the newly awarded badge and the state of the environment. The topics addressed include the environmental stewardship, the nation's performance in tourism, local infrastructure development, and health and safety in recreational activities. After the Flag ceremony, follows a buffet for the audience and a session of sand-cleaning and trash-picking. Altogether, this is the first out of a few public environmental awareness events that the beach operators ought to organize in order to retain the Flag. Parts of it will be featured in local news channels, newspapers, and blogs. Many of them will continue their online life on Youtube. In fact, it is surprising that, despite the banality and repetition of statements, these celebrations keep being televised and uploaded on social media.

Here, I need to add a parenthetical clarification: These performative events are not universally nor consistently held in all the certified beaches or every single year. Indeed, the evidence I am studying suggest that they consist a small percentage. In many occasions during field work, I was not able to locate the Flag and its accompanying spatial or ceremonial elements. At times the Flag seemed to evade the curious observer, as if it was a piece of fiction propagating through its televised images, more than its physical presence. Thus arises a methodological question: how does one work with these pieces of evidence? I will address this question from a very different angle in an Appendix (yet to be written) but in the context of this chapter I want to bring up two points. First, I think with sociologist Celine-Marie Pascale, who has argued that social sciences have for too long adhered to the constraints of natural science epistemologies which, among others, privilege the statistically significant. On the contrary, she argues, social sciences are in need of social epistemologies, in which, among others, the outlier, the queer, and the non-conforming present more fruitful opportunities for analysis—crucially dissecting routinized relations of power in the way.[19] Second, these performative events, although a minority, they are patterned and repetitive as well as diversely distributed along regions, all of which suggest they are not circumstantial but rather representative of a noteworthy culture tied to the Blue Flag. Moreover, little representation in a sample does not mean little material for study: to the contrary, on the internet and social media one can unearth a rich archive of these celebrations, usually uploaded by the local tv channels and reporters themselves.

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[19] Pascale, "Epistemology and the politics of knowledge," 2010.

Taking this evidence seriously, the Blue Flag celebrations emerge as a form of modern ritual. Cultural sociologist Jeffrey Alexander, in the opening to his essay on cultural pragmatics, explains: “Rituals are episodes of repeated and simplified cultural communication in which the direct partners to a social interaction, and those observing it, share a mutual belief in the descriptive and prescriptive validity of the communication’s symbolic contents and accept the authenticity of one another’s intentions.”[20] The yearly informal celebrations of the Blue Flag fit well within this definition. They are repeatedly occurring events—albeit not always happening in the same places—that are clearly patterned with regards to the roles of the participants, content of statements, and use of symbols. Of course, as Alexander notes elsewhere, “any contemporary application of cultural theory acknowledges that such modern rituals are never complete,” something that aligns well with the fragmentary nature of evidence discussed previously.[21] Nonetheless, given the diverse places and situations in which these celebrations are found across the private and public sector, there is good indication that when they do occur, participants and observers partake in earnest, and believe in the capacity of the symbolisms at play.[22]

But before any attempt for interpretation, another question seems to linger, namely as to why this ritualization emerges in the first place. In his interpretation of the Watergate scandal, Alexander finds that the ritualization of the congressional hearings emerged as a response to an institutional crisis; only when the matter appeared to impact values was it elevated to the status of a ritual.[23] As I will elaborate below, this shifting from the level of routine goals to the level of values in the "sacred" realm is also happening in the case of our environmental concerns, albeit in a much more temporally ongoing fashion. The "drama" of climate change, ecosystemic collapse, and environmental degradation is played out as an ongoing and intensifying crisis.[24] A second reason appears to be that the act of hospitality is inherently performative, and in tourism contexts this becomes all the more so.[25] The Blue Flags in Greece, at the intersection of environmental concerns and the intensive factory of Mediterranean hospitality, offer a fertile ground for performativity and ritualization.

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[20] Alexander, “Cultural Pragmatics,” 2004: 527.

[21] Alexander, “Watergate as Democratic Ritual,” 2003: 166.

[22] These are also the premises of the strong program in cultural sociology, the “cultural hermeneutical” methodology of which this essay partly utilizes. For more on the strong program see: Alexander & Smith, “The Strong Program in Cultural Sociology,” 2003.

Symbolic work around the Flag

The Blue Flag is relatively large and bright: a 5.3 x 6.5 ft cobalt blue rectangle, featuring a circular white logo depicting three consecutive waves at its center. It bears the year of the award (and in some countries other than Greece also the initials of the FEE), making it clear that it is not reproducible, and that its flight is under annual negotiation. Certifications always have badges, carried by products, documents, and advertisements, but it is less common that they become associated with flags. One could argue that the banner is put in place merely for instrumental reasons of visibility at the beach. And it is true that as a sign, it is quickly and clearly understood by the visitor. However, the emphasis given to the the correct display of the flag in the organization's yearly whitepapers and instructions for beach operators suggests that it is more than just for utilitarian purposes.[26]

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[23] Alexander, "Watergate as Democratic Ritual," 2003.

[24] See: Buell, *Apocalypse as a way of life*, 2003; Smith & Howe, *Climate Change as Social Drama*, 2015.

[25] Harwood & El-Manstrly, "The Performativity Turn in Tourism," 2012.

The issue of flags is reflexively associated with questions related to the nation-state. Indeed, most of the research on vexillology concerns national flags, their affective power and material effects.[27] It is also the case that many times non-national flags have direct references to certain national ones. The NATO flag is arguably a supra-national symbol, with the thirty national flags dancing around it every week in Brussels. A less direct—yet intriguing—connection can be made for the corporate flag of McDonalds, which has in many times come to be taken as a synonym for American culture.[28] In a telling 2022 incident, after the death of Madeleine Albright the McDonalds flag at Guantanamo flew at half mast along the American one. Closer to our field of interest regarding the Blue Flag, the ecological movements were also kickstarted with a flag that drew its legitimacy in connection with a national symbol. The first ecology flag, presented during the Peoples Park community project at the University of California in Berkeley in 1968-9, was simply an American Flag in which the red stripes were turned dark green. The later flag of the ecology movement, that bore a "Θ" in the place of the Stars, kept the same motif of green and white stripes.[29] Therefore, even though the Blue Flag is not a national symbol, and it doesn't have any visual resemblances or historical references to one, the strong ontological links between the nation-state (and its associated cultures) and the entity of the banner suggests that we be attentive to their connections and to the meanings that may flow between the two.

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[26] FEE, "Blue Flag Beach Criteria and Explanatory Notes," 2021.

[27] For example: Smith, *Flags through the Ages and Across the World*, 1975; Marvin & Ingle, *Blood Sacrifice and the Nation*, 1999.

[28] See: Ritzer & Stillman, "Assessing McDonaldization, Americanization and Globalization," 2004.

[29] The Flag Bulletin, "53 flag questions from readers," 1993; as cited in: Flags International, History of the Ecology Flag, 2022.

My observation is that the Blue Flag seeks associations with national and supra-national banners too. One pattern that emerges from my research is that, more often than not, the Blue Flag is hoisted side by side with two more: the Greek national flag, and that of the European Union. A simplistic perspective would posit that the Blue Flag advocates and participants resort to this practice as a way for the symbol to gain legitimacy by relating it to established widely accepted institutions. My analysis, however, suggests that the situation is more complex: the three flags cross-reference each other constructing reciprocal allegiances. It's not only the Blue Flag seeking legitimacy from the national institution, but also the inverse: Official and unofficial statements of stakeholders alike, refer to how the beauty and grandiosity of the Greek landscape was acknowledged and awarded by an organization of global reach. In addition, the participants repetitively highlight that this award is administered from a non-Greek, global organization, that—importantly—is based in the trustworthy European core: Denmark. If this is an instance that the Blue Flag (and the Greek national identity) gains strength from the credibility that the EU flag symbolizes, there is an inverse flow of symbolism here too. The EU embraces, supports, and sometimes funds the Blue Flag accreditation, fostering its institutional image as one that is environmentally friendly. More significantly for my argument, however, is that the Blue Flag strives for these alliances so as to gather around it a body of followers; it references symbols of existing communities in order to make them the base for new assemblages.

Specters of Durkheim's classic 1912 text *Elementary Forms of Religious Life* may help us understand the cultural work at play under the flag that constructs and establishes a distinct social assemblage. Although his main focus is on tribal communities in Australia, Durkheim explicitly references the (national) flag as a modern analogy to the primitive totem.[30] The Durkheimian totem becomes itself the symbol of collectivity, uniting the clan around it. In a fairly consistent analogy to this analysis, the Blue Flag itself becomes the center of celebration—"during the ceremony all eyes are upon it."[31] Its image is carried in the clothes and accessories of many of the participants in the celebration, especially by children and volunteers, while it is also featured in flyers, maps, and information boards all around the beach—still consistent with Durkheim's analysis: "Repeated everywhere and in every form, how could that image fail to stand out in the mind with exceptionally sharp relief."[32] Although when making the analogy Durkheim refers to the national flag and its relation to the soldier, evidence from the case of the Blue Flag suggests it too is treated as if it was a national banner. For example, when it is unfurled, toured around, and hoisted, there are often two pair of hands performing, keeping the flag from touching the ground, and treating it with care. In addition, and bringing the Blue Flag closer to the Durkheimian totem in a more direct way, the FEE refers to the Blue Flag certification as having a "spirit:" As per the yearly instructions, if either the parent organization or the national operator finds that awarded places are "not conforming to the spirit of the Blue Flag program" they have the power to revoke the badge.[33] The totem is the certification, represented by the Flag.

Drawing an analogy to the way in which scholars Carolyn Marvin and David Ingle build on Emile Durkheim and sociologist Robert Bellah to argue that the American nation is based on a series of quasi-religious beliefs that hold the flag as their totem, I want to suggest that a similar process operates in the case of the Blue Flag, shaping an

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[30] Durkheim, *The Elementary Forms of Religious Life*, 1912. See also: Riley, "Flags, Totem Bodies, and The meanings of 9/11," 2014.

[31] Durkheim, *The Elementary Forms of Religious Life*, 1912: 222

[32] Durkheim, *The Elementary Forms of Religious Life*, 1912: 222.

[33] FEE, "Blue Flag Beach Criteria and Explanatory Notes," 2021: 9.

"environmental community" around it.[34] As the participants claim in their statements, the Blue Flag stands for important values such as "ecological consciousness", "environmental sensibility", "responsibility," and significantly, "environmental stewardship." Keller Easterling, in her study of ISO 9000 and other quality standards, notes that they are "based not on technical compliance but emotional, motivational belief systems."[35] I will soon turn to the matter of what, if something, is "technical" about the Blue Flag, but the aspect of emotional and ideological motivation is highlighted in my case too: the Blue Flag is not just a set of checkbox criteria connected to material or technical accounting. As a sign, it is paired with values, and not just with routine goals.[36] Besides, as sociologist Elizabeth Jelin notes, "The 'concern for the environment' is, broadly speaking, a cultural phenomenon, a process of concept-building that takes place at the symbolic level."[37] At the same time, as Alexander Riley observed, "the social group is also what is symbolized in the totem."[38] That is, the Blue Flag stands for a set of values and for the group that follows these, uniting them in one coherent assemblage—an "environmental community." The evidence that I examined suggest this community is coherent enough, at least so as to come together when their Flag or its "spirit" is threatened. Every year, after the in-person checks of the operating bodies, some of the Blue Flags are revoked. Thinking of other certifications, say when an ISO 14000 is revoked, it is mainly the operating organization whose reputation is damaged. In the case of the Blue Flag the embarrassment is not limited to the beach operator, but is shared by the wider (environmental) community. The local newspapers approach it as a collective failure. In one case, municipal officials held a press conference to explain why one of the popular beaches lost the Blue Flags. In another case, the community decided to hoist black flags in the place where the Blue Flag and the EU flag were previously flying. Such an act of collective grief and protest suggests that the symbolic work of coming together was successful in the first place.

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[34] Marvin & Ingle, *Blood Sacrifice and the Nation*, 1999; Bellah, "Civil Religion in America," 1967; Nelson, "Rethinking Church and State," 2011. Of course, the Blue Flag has not come to be symbolically invested with the blood of heroes as is the case in the national flags. However, the apocalyptic imaginaries of climate change and environmental collapse are arguably equally powerful associations.

[35] Easterling, "Quality," 2014.

[36] See also: Alexander, "Watergate as Democratic Ritual," 2003.

[37] Jelin, "Towards a Global Environmental Citizenship?" 2000: 48.

[38] Riley, "Flags, Totem Bodies, and The meanings of 9/11," 2014: 723.

Environmental experience and the host-steward

If the Blue Flag does succeed in assembling a discontiguous community around it through symbolic work and cultural meaning, what is it that the advocates subscribe to? Besides its educational and public-engagement goals, the Blue Flag also self-advertises as a certificate of environmental protection and sustainability. Despite its deviations from the multitude of "invisible hard standardization," the Blue Flag is indeed a set of guidelines and includes protocols and policing mechanisms, thus joining other protocols that, in the words of Timmermans and Epstein, "help regulate and calibrate social life by rendering the modern world equivalent across cultures, time, and geography."[39] But what exactly is it that the Blue Flag calibrates? Commonly considered a certificate of environmental quality one expects that the ecolabel would operate on the realm of the biogeophysical. Indeed, the FEE and the rest of the Flag-related stakeholders take pride in their strict and extensive list of thirty three environmental criteria that coasts have to meet in order to be included in the prestigious list. The certification program outlines specific requirements with regards to the quality of the swimming waters, the environmental management of the beach, the safety services available to the public, and the promotion of environmental awareness: Systematic water measurements for bacteria and micro-organisms, instructions for the treatment of seaweeds, scheduled presence of lifeguards, and the mapping of nearby aquatic life, all support both the material and immaterial aspects of the beach experience. Notably, these requirements are mostly universal, without significant regional or geographic differentiations, in an effort to set a standard level of ecological and leisure provisions. Through its background work, the Blue Flag calibrates coastal arrangements, making its protocol a literal infrastructure of the contemporary beach and its postwar globalized expressions.

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[39] Timmermans & Epstein, "A World of Standards but not a Standard World," 2010: 70.

But the non-human biogeophysics seem to take the back seat in the Blue Flag project. Empirical research is anything but clear regarding the actual environmental benefits of the award.[40] Reasonable skepticism points out that the Flag seems to be both anthropocentric and leisure-centric, as most of its criteria revolve around the user experience of the beach, and are suggestive of only very weak ties to its biogeophysical attributes. For example, the quality of the water is examined with regards to pathogens that are harmful primarily to humans—such as e. coli and enterococci. Also, aspects of the complex ecosystems, such as the fragile sandy ecologies, are not addressed, perpetuating the prevalent understanding of sand and dunes as flat or infertile. On other occasions, guidance is vague if not contradictory: "Algal vegetation and natural debris must be left on the beach" but only "as long as it does not create nuisance."[41] Is this guideline addressing "nuisance" with regards to ecosystems or aesthetics? For example it is not clear if the necromass of the Posidonia Oceanica seagrass meadow that washes ashore in Fall is to be swept away or not. Blue Flag boating criteria address the protection of the living stock of Posidonia Oceanica, but as marine biologist Charles Boudouresque and his colleagues find, "the preservation of [Posidonia Oceanica] … implies not only the protection of the meadow itself, but also that of the in situ and exported necromass stocks," as the living and non-living "are closely connected via exchanges between them."[42] Such discrepancies have led commentators to question whether the Blue Flag has environmental or recreational priorities. The tension between the two becomes apparent in one of the criteria: "The sensitivity of certain areas may prevent them from being part of a Blue Flag beach." That is, entities too ecologically sensitive cannot be certifiable.[43] At the same time, most criteria emphasize other factors relevant to the recreational use of the coast: the presence of recycling bins and restrooms, the disclosure of informational material about the award and the beach, or the organization of educational activities for "environmental awareness." It seems, therefore, that the Blue Flag is not so much environmental as it is recreational, and more precisely, it is not so much about geophysical performance as it is about the management of human-environment interactions.

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[40] See Zielinski & Botero, "Myths, misconceptions and the true value of Blue Flag," 2019; Boevers, "Assessing the Utility of Beach Ecolabels for Use by Local Management," 2008.

[41] FEE, "Blue Flag Beach Criteria and Explanatory Notes," 2021: 15.

Given that the material properties of the biogeophysical come underrepresented, what is it that the standardization mechanism targets, and what are uniformities it constructs? Operating within the realm of those "habits of mind" I addressed earlier, it seems that "the environmental" comes center stage, suggesting a certain way of being in space: an environmental experience. The "environment" is invoked as a quintessential textual discursive guise—a narrative device more than a material one. The "environment" —stripped of biogeophysics—becomes an abstracted moral and cognitive referential category. As such, the Blue Flag structures a certain kind of space with recreational amenities, restrooms, hygiene standards and other support mechanisms for leisure. But in parallel, the Blue Flag also establishes a certain understanding of and relation to the environment. It institutes the idea that a humanly managed environment is in principle and normatively better. In Greece, for example, non-organized and non-managed beaches, cannot be certified no matter how "pristine" they may be—which is why the wild sides of the Aegean islands have few Blue Flags, if any, despite their being famously pure and unspoiled. The Blue Flag claims that the "environmental" is about measures of "ordering," more than it is about the complexity and constant renegotiation of our coexistence with a myriad of non-human entities that come along for the trip when strolling on the sand and swimming in the sea. Eventually, the environmental standard that is the Blue Flag, may not necessarily establish a standardized material space, but rather a protocol for a human-centered experience of place.

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[42] Boudouresque et al, "The necromass of the Posidonia Oceanica Seagrass Meadow," 2016: 35.

[43] FEE, "Blue Flag Beach Criteria and Explanatory Notes," 2021: 14. And the text continues: "Blue Flag accreditation is only given to sites that can demonstrate management of visitors and recreational use that prevents long-term irreversible damage to the local natural environment." This position is strangely reminiscent of the Risk & Insurance industry.

What I call here the "environmental experience," the human- and leisure-centric management of biogeophysical entities, may be addressed to the users of the beach—visitors and tourists—but it also profoundly influences the way hosts think about those environments. Earlier, I remarked that there is a somewhat equal distribution of the Blue Flag and its rituals in both more and less tourism-intensive areas, as well as in both hotel and non-hotel managed beaches. Yet, the apparent pride with which the Flag is brandished and hoisted connects to different narratives and sentiments across cases. In the less touristically oriented coastal sites, and where the municipalities are assigned the managing role for the beachfront, the discursive emphasis is placed on the successful promotion and management of a pre-existing—and already exceptional—natural landscape. In this case, environmental quality is framed as a public good, now monitored and preserved for the enjoyment of all. On the other hand, in the intensified fronts of the tourism industry, hoteliers speak of environmental quality as yet another service of exceptional hospitality on offer. Certified clear waters and clean sands are at once commodity and promotional branding. The importance of these nuances aside, at the intersection of those varied narratives emerge two patterns: One, a constant interest over environmental care and control—not "mastery," nor "ownership"—but rather a certain type of ordering and remaking of the terrain. Sometimes this was even presented as a duty: as many stakeholders simply remark "it's the right thing to do."[44] Two, a pride for the (greek) landscapes and (greek) landscapes-as-products *on offer*. In the statements that follow the awards and hoisting of the Flags, patrons and interested citizens repeatedly remark that Blue Flags are proof of the high standard of services offered in the area or in the country, of the pristine and appealing natural environment in display, and a guarantee for the experience of all visitors. While this is more intuitive in the cases of hotels, municipal agents in less touristic sites still repeatedly mentioned hospitality as a motivation for pursuing the certification: the abstract figure of "the visitor" is especially invoked as the final recipient of all the benefits associated with the certification. These two patterns show how environmental stewardship and hospitality—more than tourism—begin to come together.

In a country where more than one fifth of the working population takes the role of the "host," at least in some capacity, the environmental experience on offer is tethered to the project of hospitality, in a sort of large scale "coastal housekeeping." Crucially, the rituals under the Blue Flag and the cultural work I unpacked, including the creation of the environmental community, are all initiated by and centered around "the host," whoever this may be; and this is where I want to focus on this last part. The Blue Flag assembles a community of environmental caretakers around it, yet this role comes to be layered upon the other responsibility for "hosting" and accommodating the flows of tourists. Attending to this particular relationship between the eco-certification and its adopters provides evidence for the phenomenon I am describing in this project: environmental stewardship becomes a function of the apparatus of tourism. And on the way, both the subjects that are "the hosts," and their territory are remade.

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[44] A phrase that Vasileios Kourousias reports was coming up during a lot of his interviews; Kourousias, Flagging the beach?, 2015.

Blue Flag territories and their citizens

The opening page at the www.blueflag.global website features a Mercator projection of the world dotted by the more than 5,000 awarded sites: I suggest that we need to read this map not just as a location finder, but as the map of a discontiguous territory that functions along and beyond the loops of the participating nation-states. Already in the 1970s, Ballard approached this very coastal line of the Northern Mediterranean as a sort of enclave, with its own separate control mechanisms, yet complicit with coalitions of nation-states. In his short story "Having a Wonderful Time," he speculated on a large-scale, quasi-independent territory of permanent vacationing, where states send their excessive workforce for involuntarily, early retirement.[45] His speculation spoke to a more complex form of sovereignty that helps me think about the proliferating blue banners as they are fixed in the beaches of the world. With its profound effects on hosts and visitors, as well as the organization of their space, the Blue Flag is more than just a loose spatial assemblage: It produces and reshapes material and political territory in both the scales of the single beach and the national or global network of beaches.

I want to make two points on how this territory comes together. The first concerns the spatial function and disposition of the Blue Flag and its associated performances. Through their implicit reference to acts of bordering, conflict, enforcement, and ordering, flags and protocols have direct connotations to territoriality. Dominic Medway and fellow human geographers recently called for a study of the relation between flags and space, in a research agenda they call vexillgeography.[46] As they argue, “flags act as performative spatial inscriptions”, concretizing the relation between the properties of the symbol and the territory.[47] In the case I am studying, the practices of the certification, its set of rules, material qualifications, and management protocols, necessarily travel with the Flag: The beach is remapped and signs mark the borders of the certified area; seaweed and sand are swept under specific protocols; sanitary and access infrastructure are put in place. The important work of the blue emblem and the ritual beneath it is that they assemble these protocols and infrastructures as a coherent aggregate fixed in space. Not only is the Blue Flag logo applied to structures and information boards, but also the statements of officials during the Flag rituals often recount the new infrastructures installed. The Blue Flag signs, the accompanying three flags—nation-state, parent union, hospitality patron—and the elected and law enforcement officials in uniform during the Flag ritual speak a language of control and territorial capture.

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[45] Ballard, "Having a Wonderful Time," 1978.

In addition, the spatial practices during the celebration also tie the Flag to its territory—the territory understood here as both abstract (sea/ shore in general) and specific (particular location) entity. On the one hand, certain practices speak to the specific beachfront. For example, in one instance, the flag is reverently toured around along the limits of the certified beach. On the other hand, it is very common that the ritual will include some form of a narrative celebrating the sea and the shore as universal categories. In one occasion the Flag emerges from the sea water in the hands of children; in another, the president of a local fishermen association brings the blue flags of the municipality ashore in his boat and hands them to the mayor; in another, the president of the community recounts previous healthier (un-eroded) states of the sandy shore and wishes that the Blue Flag will foster such sustainable practices again. The symbolic work of these practices and the transcendental references to the sea is, I argue, bidirectional. It localizes the universal claims of the Blue Flag, but it also universalizes the local experience of each specific beach. A global set of standards lands on the Greek beach to help sustain it, while at the same time, if the environmental community is locally caring for each specific beach, this helps preserve all shores in the interconnected natures of the world. Thus, the presence of the banner and the rituals around it spatialize the "spirit" of the Flag and concretize its presence.

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[46] Medway et al, “Flags, society and space,” 2018.

[47] Medway et al, “Flags, society and space,” 2018: 690.

The second point concerns the way that Blue Flag functions upon sovereignty: global standardization and certification by NGOs and intergovernmental bodies install and police sets of protocols and rules that complicate the traditional understanding of national sovereignty. Political geographers Peter Vandergeest and Anusorn Unno, citing such political scientists and anthropologists as Anne-Marie Slaughter, Saskia Sassen, and Aihwa Ong, observe that to study eco-certifications it is "useful to understand sovereignty as disaggregated, variegated, and graduated," instead of the more static version of "Westphalian sovereignty, that is, sovereignty as the exclusion of external authority structures from domestic authority structures."[48] Synthesizing work that has shown how globalization and new market structures have shifted some of the components of classical sovereignty from states to non-state actors, they study aquaculture certification in Indonesia and argue that the Aquaculture Stewardship Council (ASC) and its associated political processes for standardizing shrimp aquaculture have created a new extraterritoriality, reminiscent of the extraterritorial empires of the colonial era. "Key shared features," they observe, "include the identification of subjects that need protection, a narrative that depicts local states as inadequate for providing these protections, and the creation of territories where these protections are provided."[49] In the study of ISO quality standards that I referred to above, Keller Easterling makes a related argument, framing these standardization and certification mechanisms as a a form of what she calls "extrastatecraft:" power staged in addition or in partnership with statecraft.[50] In their universal ambitions for rationality, ISO—standing in for a variety of standards and certificates—"models not a practice to be emulated but a territory to be occupied by extrastatecraft." And she continues:

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[48] Vandergeest & Unno, "A new extraterritoriality?" 2012: 358.

[49] Vandergeest & Unno, "A new extraterritoriality?" 2012: 358.

> "As the word suggests, extrastatecraft plots to bypass bureaucracies with an effective spatial practice at the global scale. Global influence need not wait for the construction of a comprehensive, singular, or totalizing form of governance. On the contrary, such consensus often threatens to deaden political positions."[51]

The Blue Flag appears to be consistent with these descriptions as a global extra-governmental certification apparatus that bypasses state functions. For example, in the Interlude that preceded this chapter, I referred to Greece's "Special Secretariat for Waters," a part of the ministry for the Environment that annually updates a "Bathing Water Profiles Registry." Nevertheless, the Blue Flag asks for separate sampling and measurements to be taken, while it also retains its own policing mechanisms for the retraction of the award.

These two points begin to indicate that the Blue Flag operates less on territory as consolidated land over which traditional jurisdiction applies, and more on the other two aspects of territory: the terrain and its technics.[52] Addressed by the logistical appetite of administrative operations, the terrain becomes the target of the calculative control over territory, with or without ownership over it.[53] The Blue Flag fits well within this typology of control, as its logic concerns primarily the reshaping and regulating of the biogeophysical ecology at the beach (including human behavior). Importantly, as I have been showing in this chapter, the Flag's terrain operations are realized through both infrastructural and symbolic work.[54] The former refers to the qualification criteria – especially those with material objectives – and their respective practices, while the latter refers to the Flag itself and the performative rituals that develop around it. Recalling the criteria and qualifications of the Blue Flag, they appear to center around the calculative control and, if necessary, the remaking of the terrain. Visible information panels announce the extent and borders of the certified beach which has to be properly demarcated and mapped; the lifeguard's outpost oversees the entire awarded area; the water is repeatedly monitored with respect to the minerals and micro-organisms it contains; sand and seaweed are nourished or swept under protocol; the yearly criteria and notes published by the parent NGO regulate a set of practices enforced by regularly patrolling officials. Thus, the Blue Flag operates as a mechanism of strategic control and intervention over the terrain of the beach, to remap and render it operational. Looking precisely at the overlapping moments of the geopolitical and the geophysical—as I previously recounted Stuart Elden suggesting—is revealing in understanding the forms of articulation of the terrain that the Blue Flag entails.[55] Eventually, approached through the lens of strategy and logistics of the terrain, not only do the language of flags and uniforms appear at home, but also the rites acquire meaning, now appearing as celebrations of a certain form of environmental calculative control.

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[50] Easterling, *Extrastatecraft*, 2014.

[51] Easterling, *Extrastatecraft*, 2014: 209.

[52] I analyze the quadripartite understanding of territory per Elden in the Interlude section just after the Introduction. In short, Elden distinguishes these four aspects of territory: land (geo-economic), terrain (geo-strategic), legal (jurisdiction), technical (calculation). Let me first clarify that the Flag does operate on territory-as-land, since one of the criteria for the certification concern the public accessibility of the beach. Yet, this requirement is neither consistently followed by operators nor policed by the FEE. In at least two instances during my field research, Blue Flag beaches in front of luxury hotels were inaccessible to non-clients. And here I focus on the other two aspects that I find more covert and consequential.

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[53] Elden, "Land, Terrain, Territory," 2010: 806-8.

[54] On the notion of symbolic work I have been writing above, mainly per Alexander, "Watergate as Democratic Ritual," 2003. For the notion of infrastructural work see: Bowker, *Science on the Run*, 1994.

[55] Elden, "Legal terrain—the political materiality of territory," 2017.

Crystallized within a thick network of tourism stakeholders and actors, the Flag becomes a consequential set of practices, one that spatially reproduces and orders the operation of thousands of beaches, while setting standard good practices and constructing normative imaginaries for the rest. Eventually, it's not only the beach that begets the Flag, but also the Flag that begets the beach, transferring to it *its* mechanisms, protocols, and values.

Chapter 2

Calculative Stewardship: Science-tourism entanglements and corporate environmentality

From June 5 to August 5 2015, Caretta Caretta turtles dug 16 dens in the beach dunes in front of the Costa Navarino hotel complex in south western Peloponnese, in Greece. That summer, an estimate of 540 baby loggerhead turtles crawled toward the water to start their ocean journey and contribute to the population of this critically endangered species. The geospatial mapping of the dens, and the monitoring of the turtles was made possible through a program ran by the Archelon Sea Turtle Protection Society which was initiated and sponsored by TEMES SA, the managing operator of the Navarino group of hotels. Of the sixteen dens, half were moved away from the spot that the parent-turtle chose to dig, as the environmental managers deemed these places prone to flood and this unsuitable for the incubation of the eggs.[1] Operating on the public property of the shore, and within an area designated for protection under the EU Natura 2000 program, the hospitality operations of TEMES, it seems, extend beyond the visitors of their 5-star boutique collection and their golf and thalassotherapy activities.[2] In partnership with environmental managers and scientists, they are active in caring for their surrounding environments because, as the organization's Environment and Sustainability Manager stated in a local news story covering the turtles initiative: "The protection of the ecosystems and the rare biodiversity of Messinia are central to the philosophy of Costa Navarino."[3]

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[1] News Messinia, "Περιβαλλοντικές Δράσεις από το Costa Navarino," 2015.

[2] The beach, its dunes, and the surrounding area are designated under the Habitats Directive. See: https://natura2000.eea.europa.eu.

Although part of a more general turn toward "greener practices," the monitoring of loggerhead turtles in protected areas adjacent to a hotel appears to be of a different kind than the oft cited initiatives related to energy efficiency, waste management, or the use of non-harmful chemicals. Together, all of those practices may be advertised as sustainability initiatives, listed in the relevant reports, and in some cases considered part of the Corporate Social Responsibility or Environmental Sustainability and Governance strategies. But programs of conservation, afforestation, and species monitoring, suggest a much larger scale of engagement, extending outside the hotel premises—or even property—and ordering various aspects of the biogeophysical surroundings.

This may not be a very common case in Greece, but is, nevertheless, not an isolated one. In other parts of the country, as well as throughout the global sunbelt and the zone of the tropics, luxury hotels pop up within or adjacent to protected areas and sites of designated natural beauty, and initiate programs of conservation, tree-planting, bird-watching, and carbon offsetting. In the Introduction I described how one large resort in Northern Greece is collaborating with environmental NGOs for the planning and implementation of wetlands conservation in its vicinity.[4] In Indonesia and twenty three locations around the world, the Banyan hotel group has established a global conservation foundation hosting and funding scientific research on tropical marine and forest environments.[5] In Kenya, The Safari Collection hosts and breeds endangered giraffes in 12 acres of private land within 140 acres of indigenous forest in the suburbs of Nairobi. As the organization reports, "The elegant long legged giraffes have roamed its lawns since the

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[3] News Messinia, "Περιβαλλοντικές Δράσεις από το Costa Navarino," 2015.

[4] See: SANI IKOS Group, ESG Report, 2021. See also: https://sani-resort.com/sustainability.

[5] See: banyantreeglobalfoundation.com.

1970s when Jock and Betty Leslie-Melville first adopted an orphaned Rothschild's giraffe called Daisy."[6] In all of these cases, as well as the one from Messinia I began with here, the hospitality organizations' fields of occupation and environmental influence extend much beyond the immediate surroundings of their buildings and recreation infrastructure.

This chapter turns to the corporate hospitality industry in order to continue the investigation of the strategic entanglements between tourism and environmental stewardship as they order the biogeophysical surroundings and reshape territory. Evidence from the Costa Navarino hotel complex in the Peloponnese, brings to the fore a series of territorial activities—some more visible while others less. As we will see, the organization considers the *hospitality project itself as a territorial one*, extending aspirations of control to the greater surrounding region. The interest for biopolitical and geopolitical ordering of nature brings the hospitality industry in dialogue with the global financial market, environmental non-governmental and scientific organizations, as well as with regional authorities, fostering yet more instances of the stewardship-hospitality complex. Later in the chapter, focusing on the specific case of the Navarino Environmental Observatory (NEO), the environmental research station hosted within the Costa Navarino hotel complex, I show that calculation, quantitative reasoning, and "evidence-based policy" become catalysts for territorial expansion and influence. However, the motivations behind these processes are not as clear-cut as they may at first appear: they are driven *neither clearly by capital* (whether monetary or symbolic) *nor clearly by care*. Rather, the two motivations are mixed, resulting in complex dynamics of agency between the two, now united under the umbrella narrative of stewardship. But before we start looking too closely in Messinia and the complicated actually-existing tourism-science-stewardship schema, a broader mapping of structural changes in the hospitality sector will help provide some necessary context: How did the lands beyond a hotel's property come to be so important and how has the hospitality industry been able to afford this reorientation?

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[6] See: thesafaricollection.com/properties/giraffe-manor/about/.

Experience tourists and corporate hosts, toward the total environment

The "green" turn of tourism I briefly addressed in the introductory chapter is only one part of the reorientations that the industry undertook in the postwar era. Indeed, my research was initiated partly as a critical examination of this new, "environmentally conscious" form of global tourism mobilities that emerged in the 1990s, of which "sustainability" has been a keyword. In parallel to this, another related transition has been at play. Tourism researcher Auliana Poon coined the "new tourism revolution," to identify the broad turn from a mass tourism model of the 1950s, 1960s, and 1970s to a more diversified paradigm after the 1980s.[7] According to her 1994 text, "International tourism is undergoing a rapid metamorphosis. … Consumers are growing more sophisticated and more demanding. They are tired of the traditional mass-market tourism products and resorts. They are looking for new products and new destinations. … New tourism … is characterized by flexibility, segmentation, and more authentic tourism experiences."[8] The standardized product of postwar vacations transitioned to tailored and personalized experiences, what some commentators refer to as "niche tourism," and which includes a diverse set of typologies from backpacking to dark tourism and from eco- to medical-tourism.[9] A holistic take on individual and uniquely crafted experiences comes center-stage.

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[7] Poon, *Tourism, Technology and Competitive Strategies*, 1993; Poon, "The 'new tourism' revolution," 1994.

[8] Poon, "The 'new tourism' revolution," 1994: 91.

[9] Marson, "From Mass Tourism to Niche Tourism," 2011. For a classic account of the development of the standard mass tourism vacation type see: Löfgren, *On Holidays*, 1999.

Combining the renewed appreciation for the environment with this experiential turn, the alternative spectrum of leisure travel gave way to a wide set of nature-related consumable experiences: wildlife exploration, eco-escapes, "back-to-basics" retreats, outdoor activities from paragliding to climbing, caving, and geopark quests. As commentators have noticed, the "new tourist" becomes not only more conscientious about the environment, but also more active towards it.[10] That is, instead of being passive at the beach as per the postwar model, the "new tourists" seek a more immediate connection with nature, either by spending days walking through forest paths, working in the farm, or participating hands-on in saving turtles. It is important to clarify here that the various biogeophysical elements—terrestrial animals, birds, fish, forests, swamps, creeks, lakes, marshes, volcanoes, and other geological formations—are not themselves the product, but rather it is the experience they foster. For the hospitality project, this may mean at least two things. One, the surroundings are rendered even more important than before. Especially in the global sunbelt, the tourism industry has since it's emergence been based on the surrounding landscape, essentially marketing a product based on the sea and the gazes toward it. But as reports for environmental degradation abound, the various ecosystems are elevated as critical infrastructures for the industry. They need to be saved; they need to be protected—albeit from the destructive forces that the industry itself exerts. Second, the hospitality experience needs be associated not just with the notion of "pristine nature"—which was the case earlier too—but also with the notion of "pristine nature taken care of." Both points, as well as more generally this combination of the parallel moves towards the "green" and the "experiential," are well illustrated in anthropologist Amelia Moore's research of tourism in the Bahamas. As she demonstrates, the realization of environmental degradation, and the activities to study and mitigate it, are not an “interesting outside” that tourists come to see; these activities are themselves the touristic product, a phenomenon that Moore calls “Anthropocene Tourism.”[11] For the middle-upper class traveler—usually from the Global North—who now knows about “climate change” and “biodiversity collapse,” appreciating nature means more than just looking at it. It’s not just a safari; it’s a stewardship safari.

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[10] Poon, "The 'new tourism' revolution," 1994; Marson, "From Mass Tourism to Niche Tourism," 2011; Weaver, "Towards sustainable mass tourism," 2007.

Then again, how would the hospitality industry assemble the power necessary to exert meaningful influence for conservation and environmental protection? The question becomes even more relevant for the sustainability-oriented and eco-tourism business which, in its beginnings was represented mostly by small-medium enterprises.

“Investment frenzy: 150 new hotels in two years” is the title of a January 2022 newspaper article from Athens, describing the developments in the Greek hotel sector, which grew significantly, despite the pandemic-related relative economic stagnation. But while the title focuses on the number of new hotels being built or reopening, the body of the article mostly elaborates on the structures of inbound investment capital, hotel groups acquiring new units, corporate mergers, and hotel management companies overtaking smaller and medium firms.[12] The Greek hospitality industry seems to follow a restructuring pattern now prevalent in Europe—and perhaps also evident in parts of the global sunbelt—towards increased globalization, corporate accumulation, and, more recently, financialization. The corporate form in hotels is nothing new; indeed the application of the joint-stock model of ownership was a differentiating factor among the previously existing guesthouses and the emerging modern hotel of the late 19th and early 20th century.[13] Expectedly, then, the transformations in the corporate sector after the second War and more specifically after the post-fordist restructurings of the 1980s did not leave the hospitality industry unaffected.[14] Although the hotel corporate sector was from its very beginnings internationalized and developed in groups—in, for example, colonial networks from the 19th century[15]—this process did not significantly take off until after the second world war, when the rise of mass tourism rendered international hotel groups more efficient.[16] In some countries such as Spain and Greece, the internationalization process emerged even later because the military dictatorship regimes were providing financial and regulatory aid for the growth of the hospitality sector through the state.[17] This was largely a process of concentration and market integration, but the transition to post-fordist economies and the neoliberal world would transform it. As geographer Piotr Niewandowski writes, "in contrast to the 1960s and 1970s when the global market was perceived as homogeneous, in the 1990s the hotel sector found itself subject to various post-Fordist tendencies such as diversification of products, a growing sensitivity to cultural differences, the emergence of strategic alliances and the subsequent popularization of various non-equity business models."[18] Hospitality operations assume both high investment and high risk because of the fixed capital in the form of buildings and infrastructures they necessitate. As such, not only did it become increasingly unpopular as a type of economic activity in the post 1980s world, but it also started depending on sources of funding external to the sector, through what Niewandowski's quote above refers to as “non-equity business models”: franchise, management agreements, and partnerships with investment funds.[19] Importantly, this did not halt concentration, which continued in different modes. Whether they opt out from asset ownership and continue solely in management (for example the model followed by *Four Seasons*), or they continue doing both operation and management in various levels (for example the model followed by the *Hilton*), the big international players continue dominating the market. As human geographer Ismael Yrigoy finds, in European countries such as Spain and Greece, hotel rooms have been steadily concentrated in the control of large—and mostly international—hotel chains. In addition, the fragmentation of the hotel processes has created the ground for an increasing financialization of the hotel sector, especially during and after the 2008 eurocrisis: financial agents own hotels, and hotel chains rely on financial-based strategies.[20] These processes have created a business landscape where land and building ownership and operation may delink from their management. In this economic rescaling, large international corporate organizations are consolidated and are sustained by and involved in the circulation of large-scale investment capital.

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[11] Moore, *Destination Anthropocene*, 2019.

[12] Souki, “Επενδυτική Μανία: 150 νέα ξενοδοχεία σε δύο χρόνια,” 2022.

[13] See: James, *Histories, Meanings, and Representations of the Modern Hotel*, 2018; Moore, *Hotel Modernity*, 2021.

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[14] For an analysis of the post-fordist economic restructuring now associated with neoliberalism see: Arrighi, *The long twentieth century*, 1994.

[15] Historian Kevin James describes such colonial networks of hotels; James, *Histories, Meanings, and Representations of the Modern Hotel,* 2018. The early internationalization and group-development of the hospitality industry stands in contrast to most other service industries; see: Contractor & Kundu, "Globalization of hotel services," 2000.

[16] Niewandowski, "Towards an economic-geographical approach to the globalization of the hotel industry," 2014.

[17] Yrigoy, "Financialization of hotel corporations in Spain," 2016; Nikolakakis, "The Colonels on the Beach," 2017.

[18] Niewandowski, "Towards an economic-geographical approach to the globalization of the hotel industry," 2014: 7.

To briefly bring these more general observations closer to home, the case of Costa Navarino I am examining here is managed by a corporation under the title Touristic Enterprises of Messinia SA (TEMES). Although a corporate entity, it long remained solely in the hands of the founder’s family until the early 2010s, when other investors started acquiring shares in it. It is currently controlled by the three sons of the founder in a share percentage of 75%, while an investment capital group from Saudi Arabia (Olayan SA) controls the remaining 25%. Following the trends I just described, at the time of writing this, the management of hospitality services in the hotel complex are outsourced to *Marriott International Inc*, *Westin Hotels & Resorts*, and *The Luxury Collection*. The golf courses also have their dedicated operator: *Troon Golf*. TEMES retains the management of the real-estate properties within its land, that are sold or leased for residential purposes, and which in 2020 was the main source of revenue for the company. The quick financialization of real-estate properties is used to sponsor the ongoing phases of the general development, and resembles what Ismael Yrigoy documented for the Spanish case —albeit not in this intensity. Most importantly, however, TEMES is the owner and developer of the land in the vast territory that the hotel complex occupies.

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[19] See also: Contractor & Kundu, “Globalization of hotel services,” 2000. Interestingly, such external sponsorship is a historical characteristic of the joint-stock corporations. Historian Philip Stern, writing on the early forms of corporations, observes that “they pooled investment from sources beyond those involved in the trade itself, from nobility and gentry, to those who had profited from a range of other industries.” Stern, *The Company-State*, 2011.

[20] Yrigoy, “Financialization of hotel corporations in Spain,” 2016.

The process described above has been essential for the turn towards the hospitality sponsored environmental stewardship, which could not be explained solely from the rather generic turn to sustainability in the post-fordist, post-1990s era of "new tourism." An obvious point is that the consolidation of big players and the ensuing capital flows involved allow for the acquisition of larger stretches of land in the desired locations, and for the deployment of pricy strategies for environmental management. The capital accumulation that the joint-stock model enables, has historically provided hotels the ability to acquire assets at scale and engage in other capital intensive activities such as the experimentation with and adoption of new technologies, what Robbie Moore calls the "Grand Hotel effect."[21] But more than that, in their corporate identity and structure these hospitality organizations adopt practices that co-produce the environmental project. Many times corporations claim they have a "vision," if not also a "mission." Either as an honest pursuit or a marketing trick, it influences both client expectations and in turn actual outcomes. For example, in the case of Costa Navarino that I will elaborate below, the vision of the founder for a "sustainable destination" has structurally shaped the corporation itself. Which brings me to another point: As complex organizations, corporations can now have dedicated departments for sustainability, even pursuing their own agenda, not necessarily in perfect alignment with the rest of the organization. In addition, another related corporate practice is this of "reporting." Earlier it has been mostly referred to as Corporate Social Responsibility (CSR), but a newer term has emerged during the "green" turn: Environment, Sustainability, Governance (ESG) reporting.[22] Many have argued that CSR and ESG reporting practices are performed for short-term material interests—either for reasons of identity communication or because sound resource management cuts costs—or as a form of institutional isomorphism—a hollow act of brand identity preservation amidst competitive environments.[23] Nevertheless, regardless of whether for reasons of instrumentality and corporate communication, or to achieve uniformity and culture consistency, more reporting many times results in more acting toward what is reported.[24] A last important point concerns the division between ownership and development on the one hand and management on the other, which is increasingly the case especially in the upper end of the sector. Within this model, the developer seeks to create a destination attractive enough for well-established operator managers and further investors, and to do so the former acquires, conserves, and designs environments of high natural value. The difference is that managers and investors are not only interested in the accommodation facilities and the immediate premises, but on the destination and its potential as a whole.

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[21] Moore, *Hotel Modernity*, 2021.

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[22] Buckley & Pegas, "Tourism and CSR," 2012; Filosa et al, "The State of U.S. Sustainability Reporting," 2021.

[23] I referred to the concept of institutional isomorphism in chapter 2 with regards to standardization. See: Meyer & Rowan, "Institutionalized Organizations," 1977; Di Maggio & Powel, "The iron cage revisited," 1984.

[24] Martínez et al. "Exploring the Role of CSR in the Organizational Identity of Hospitality Companies," 2014; Cherapanukorn & Focken, "Corporate Social Responsibility (CSR) and Sustainability in Asian Luxury Hotels," 2014.

In light of the above, it seems that the developments around sustainability, the emergence of experience-as-product, and the market restructuring toward consolidation, internationalization, and financialization are interconnected and frame the renewed environmental project of the hospitality industry. The general environment of hospitality —in the scale of the corporation, or the country—is framed as a critical infrastructure and is nurtured so as to create a "total environment" for the tourist experience to unfold. In a number of cases I looked, and significantly in the case of Costa Navarino I am examining in more detail here, the Environmental, Sustainability, and Governance plan is not just a set of peripheral strategies for cost minimization and organizational image-making; but rather, the monitoring, nourishing, and remaking of the landscape and ecosystemic environment becomes part of the hospitality project itself. It is within this context of transformations in tourism and the hotel sector that the strategic effort towards large-scale environmental stewardship from corporate hosts emerges. As I will show below, this consists a distinct type of control over territory, one that does not necessarily need to overlap with ownership—think of the wetland restoration or ocean monitoring projects I have mentioned—and it fosters distinct technologies of government over territory.

Corporate environmentality

The claim that a hospitality corporation exerts power and influence in domains beyond its immediate trade may at first sound counter-intuitive. As political geographer Joshua Barkan observes, "instances in which corporations play direct roles in politics and regulation are presented … as *errors*."[25] This follows a now generalized conceptualization of the corporation as belonging solely to the realm of economy, which stands in distinction to the realm of politics. But the joint-stock company was from its early appearances as a commercial organization considered to be a double body: both political as well as economic.[26] In a study of an early articulation of this relationship, historian Philip Stern examines the British East India Company, to argue that: "corporations … were by nature public authorities and governments in their own right."[27] He documents a complex governance apparatus that the Company came to assemble and enforce in India, that included diplomacy, taxation, and demography among others. The East India Company operated under the assumption that their exclusive right and responsibility to trade in the Indian Ocean, also implied and necessitated the biopolitical management of towns, plantations, and bodies. But if Stern's evidence revolved mainly around the regulation of subjects, I am here interested in the regulation of space and the environment.

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[25] Barkan, *Corporate Sovereignty*, 2013: 3, emphasis in original.

In his discussion on the constitution and manifestation of corporate sovereignty, Joshua Barkan contends that the role of space has been underappreciated—at least as compared with the temporal dimension.[28] His assertion that territory has been considered as a static property of the nation-state is also shared by Stuart Elden, who attributes to this view the dearth of research on territory that he in turn attempts to address.[29] As concepts, sovereignty and territory have long been interconnected, yet after the treaty of Westphalia their relation was confined within the realm of the nation-state. According to Barkan, corporate sovereignty evades this type of nation-state territorialization and the rules it sets, both historically, through charters and comities, and in the contemporary world through the internationalization of firms or spatial exceptions. Attention, Barkan suggests, needs to be paid to what the territorializations of the nation-state leave "outside." To exemplify, the author identifies a series of spatial arrangements, different from, and in many times in contestation with that of the nation-state, including the policing of land and sea trade routes, or the establishment of free trade and economic zones.[30]

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[26] Stern, "The Corporation in History," 2017.

[27] Stern, *The Company-State*, 2011: 214.

[28] Barkan, *Corporate Sovereignty*, 2013: 12-3.

[29] Elden, *The Birth of Territory*, 2013.

In Greece, the so-called "Integrated Tourism Development Areas" is a clear manifestation of such an arrangement, and Costa Navarino has served in a mutually co-constitutive relationship to it. In the mid 1980s, Vassilis Konstantakopoulos, a shipping sector mogul, begun acquiring land in his home region of Messinia. At the time, the south western Peloponnese was not touristically developed, which is exactly where Konstantakopoulos saw a missed opportunity: he wanted "to promote and … establish his homeland Messinia as a top international destination."[31] Konstantakopoulos was founder of Costamare Inc., that is still one of the world's leading owners and providers of containerships for charter. For almost two decades he puzzled together pieces of property around the areas of Romanos, Gialova, Kinigos, and Rizomilos, eventually uniting around 1,200 plots previously owned by smallholders.[32] The resulting four contiguous loops added up to more than 2,500 acres—a number which sounds even more extreme considering the generally small holding property structure in Greece. The novel scale of this monetary and spatial entity necessitated a novel legislative tool to regulate it. In 1997, the government introduced the Integrated Tourism Development Areas (ITDAs).[33] This zoning tool defines a special regulatory regime in terms of allowed programs, sizes, and obligations, essentially outlining the operations of a touristic park. As a mechanism of exception, the ITDA legislation functions as a repeatable formula that spatializes and crystallizes economic formations.[34] The repeatability persists: In Greece, the ITDAs legislation and its flagship first application, the Costa Navarino complex, marked the beginning of a series of pharaonic touristic investment proposals that followed in various parts of Greece—all of them as of yet undeveloped and pristine. As corporate territorializations with their special operational regimes, ITDAs are remarkable and powerful spatial technologies.[35]

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[30] Barkan, *Corporate Sovereignty*, 2013.

[31] costanavarino.com/about-temes/.

[32] Tsonis, Η διερεύνηση της Περιοχής Ολοκληρωμένης Τουριστικής Ανάπτυξης Μεσσηνίας, 2015.

[33] Known in greek as "ΠΟΤΑ" (Περιοχές Ολοκληρωμένης Τουριστικής Ανάπτυξης). Law 2545/97, article 29.

Although the ITDAs are a straight-forward "state of exception" of corporate sovereignty, and a necessary one to be studied, it misses a lot of what is actually happening, in both theory and the specific example of Costa Navarino. In a way it is so obvious, that it ends up eclipsing other things that are taking place at its margins. Planners, geographers, and legal scholars in Greece have already engaged critically with the concept of ITDAs, but this existing work engages mostly with the legal, planning, and economic geography aspects.[36] Joshua Barkan's example of the trade route policing shows that territorialization has to be thought beyond ownership or jurisdictional boundaries of territory. In other words territory is not only a matter of "inside-outside," something that brings to mind again Stuart Elden's nuanced view of territory. In Elden's quadripartite distinction of territory that I unpacked in chapter 1, the ITDAs are a geo-legal mechanism that regulates and articulates land as property and economic program—that is "land" as the geoeconomic face of territory. However, as I will show below, what is happening at Costa Navarino is much more than property restructuring, land grabbing, and jurisdictional delineation. For example, the wetlands restoration project in Northern Greece, the reforestation programs of the Banyan Tree Global Foundation, the conservation of giraffes in Kenya, and the monitoring of turtles in Navarino that this essay opened with, all concern more than just “land:” they concern the articulation and ordering of the biogeophysical traits of territory—that is, in Elden’s vocabulary, the “terrain” and its technics. In what follows, I focus on the mechanisms that the hospitality organization of Costa Navarino has developed for the ordering of the terrain, and specifically the interplays between the touristic-development complex and the regulation of the environment, thus touching on the geostrategic and technical aspects of territory.

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[34] Easterling, "Zone," 2014.

[35] For the notion of "corporate territorializations" see also Barkan, *Corporate Sovereignty*, 2013.

[36] Indicatively, see Melissourgos, Τοπική-Περιφερειακή Ανάπτυξη και η Γεωγραφία των Χωροθετικών Αντιθέσεων, 2008; Vlasi, Σύγχρονες μορφές επενδύσεων στον τουρισμό, 2017.

A first instance concerns the water management projects undertaken by TEMES. According to their Sustainability Report, the company conducted a resource management study based on own measurements. TEMES gifted to the authorities both the study and geo-hydrological data it collected, for the development of a regional scale water management plan. Using calculative work completed by TEMES, the ministry published in 2013 a water management plan for the southwestern Peloponnese.[37] Operating according to its plan, TEMES constructed two water reservoirs that capture somewhat less than 6% of the river basin flows of Selas and Kserias, two rivers that traverse or are adjacent to the ITDA property. According to the study, this water is enough for the needs of the whole ITDA complex, but most significantly, for the two golf courses that are water-intensive. This is a case of large-scale environmental design, which poses questions not only of resource management, but also of the production and control of monitoring data.

A second instance concerns the habitat protection and conservation initiatives that TEMES undertakes. It currently co-facilitates or sponsors three related programs: one for the habitat protection of the endangered African Chameleon, a second for the Caretta Caretta loggerhead sea turtle, and one on the monitoring of migratory birds in the nearby Gialova lagoon. All three habitats belong to a sensitive landscape partly designated under protection in the Natura 2000 European Network and the Greek network of nationally protected areas. For each of these habitats, TEMES collaborates with respective NGOs: the Hellenic Herpetological Society, the Archelon Sea Turtle Protection Society, and the Hellenic Ornithological Society. Local bloggers/ commentators have reported that some of these NGOs shifted their positioning relative to the development after being offered sponsorship for research.[38] Regardless of the moral implications arising around sponsorship, this appears to be not just a partnership, but a strategic alliance between the corporation and the NGOs that would potentially be its critics. In these cases there are two things that are at stake. Firstly, the protection and conservation of the biogeophysical entities that are, as I argued above, now considered in terms of a critical infrastructure and a total environment logic. TEMES is dependent upon Archelon in order to provide for the protection of the Caretta Caretta turtle, which in turn "creat[es] value for the environment"—the same environment that Costa Navarino depends upon and markets as a total experience.[39] Secondly, and at least equally importantly, these alliances allow for the control of the production of knowledge through which any protected natural area is framed, reframed, and normatively approached. That is, Archelon becomes in turn entangled with TEMES during its research and practice. The relationship becomes, therefore, reciprocal, and as such even stronger.

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[37] TEMES, Sustainability Report, 2015.

Yet another place to look for the techniques of environmental calculation is the Navarino Environmental Observatory (NEO). NEO is a research entity, the offspring of a collaboration between TEMES, the University of Stockholm, and the Academy of Athens. It has been established for research related to climate change and the interface between human and non-human habitats, and it takes pride in being a complex entity that brings together the worlds of academia, policy making, and the private sector.[40] Its research station is located within the property of the Costa Navarino development, and hosts academics, researchers, conferences, and environmental awareness community events. The climate research undertaken at NEO is based on measurements and monitoring in the surrounding area which provides for a very good case study due to its rich biodiversity and geophysical attributes. In this case, TEMES may not be dependent from the knowledge created at NEO, but the very existence of the station is telling of how the corporation understands its relation to the stewardship of the environment.

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[38] Chameleon, "Πώς αριστεροί και οικολόγοι καταστρέφουν το περιβάλλον, 2011.

[39] TEMES, Sustainability Report, 2015: 75.

[40] NEO, Annual Report, 2020.

A fourth case is the management of the Gialova lagoon: the organization has in the past two years been involved in the operation and protection of the site. As I will elaborate later in this chapter, the Gialova wetlands, together with its surrounding landscape, and especially the dunes and coastal areas adjacent to it are all designated protected areas, belong to the European Natura 2000 network, and, as any protected area in Greece, are property of the state, which bears the responsibility for their management. However, the rights for the operation of the fishing and eco-tourism station located at the lagoon are rented out by the state to interested parties through a bidding process every five years. Two years ago, TEMES formed a subsidiary company and bided for the rights to operate the fishing station. Commentators have noted how the land acquisition of the corporation has followed a strategic pattern to "encircle" the protected areas including the lagoon.[41] But even if this is the case, it is one thing to strategically locate hospitality activities near the protected area, and another to be actively involved in its management. Through the subsidiary fishing company, and through the calculative consulting of NEO, the organization now monitors salinity levels, controls fish stocks, and bears the responsibility for the environmental engineering of the estuary's mouth towards the sea.

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[41] Tsonis, Η διερεύνηση της Περιοχής Ολοκληρωμένης Τουριστικής Ανάπτυξης Μεσσηνίας, 2015; Markopoulou, "Τουρισμός, Περιβάλλον και Τοπική Ανάπτυξη," 2017.

All the aspects of environmental management and intervention above, bring forth types of calculative and ordering control through logistics and administration—but that in any case are independent of ownership narrowly understood. They consist a typology of geostrategic and geotechnical governance over the environment. The art of government of the environment has been called by commentators "environmentality"—a portmanteau bringing together environment and governmentality, following the work of Michel Foucault. Foucault himself had not elaborated on the environment and the ensuing biopolitics of non-humans, but subsequent scholars coined the neologism to apply Foucauldian ideas on the study of nature's management.[42] As social scientist Stephanie Rutherford notes, environmentality "has become a useful concept to help think through the ways that the environment is not only a biophysical reality, but also a site of power, where truths are made, circulated, and remade."[43] Timothy Luke, was one of the first to use the term, and through his studies suggested that the potential for calculative control over aspects of "the environment" through mapping, measuring, managing, and eclectically reconstructing it, constitute a significant type of power.[44] The function of environmentality that interests me here is "the production of rationalities of rule", which essentially is a way of seeing and reading the environment: measurements, modelings, and calculative techniques generate information and construct ways of framing the environment through them.[45] The important word for my analysis is "production"; environmentality is a productive form of power re-creating the environment.

In light of the above, the practices of environmental stewardship that the hospitality sector increasingly takes up in Greece and parts of the global sunbelt operate on aspects of territory, focusing on the monitoring, measuring, and remodeling of its biogeophysical attributes. Environmentality has mostly been associated with the centralized power of the state, or community government techniques.[46] But in the instances such as the one I am studying here, we are witnessing rather a *corporate environmentality*, developed in relation to corporate mechanisms (eg CSR reporting), and influenced by the corporate structure and logics (eg accumulated capital and land ownership).

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[42] Darier, "Foucault and the Environment," 1999.

[43] Rutherford, "Environmentality and Green Governmentality," 2017: 1.

[44] Luke, "On Environmentality," 1995.

[45] Rutherford, "Environmentality and Green Governmentality," 2017.

Territorial Ambitions

Are these instances of terrain intervention isolated cases? They may be thought of as an aggregate rather than a coherent plan, but there is ample evidence to suggest that the organization acts within the frame of a specific ambitions of territorial scale. Much of it can be traced back to the vision of the founder Konstantakopoulos. A proud Messinian, his vision was for a holistic development that would not only put the area in the global touristic map, but also would provide for the whole region and its communities, creating jobs and supporting local businesses. Founder and company have also been driven by a desire to protect and preserve the natural beauty of Messinia. As the company's history information highlight, "Captain Vassilis had been a passionate environmental activist since the 1970s," and was "one of the first members of the Hellenic Marine Environment Protection." In light of these philosophies and context, the plan for the Costa Navarino was to develop a series of luxury hotels in a few separate areas of southwestern Peloponnese, that would include residential villas, a spa and thalassotherapy center, and a conference center, but would mainly be developed around two signature golf courses.[47]

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[46] Notably in Agrawal, *Environmentality*, 2005.

[47] Two more are now planned, to add to a total of four.

This choice is important because golf tourism was at the epicenter of the discussion around the rebranding of greek tourism. Golf tourism was widespread in other European and Mediterranean destinations—characteristically in Spain—since at least the 1980s.[48] Just before the opening of the first Navarino golf course Greece had only six courses, whereas eighteen more were in planning and permission status, and the Association of Greek Tourism Enterprises posited the country could host at least forty eight.[49]

This territorial vision has been transferred in the corporate communication documents and language, where TEMES self-identifies as a destination developer. From their part, this is explained in the following way: "Costa Navarino introduces a new model for tourism development. A model which does not base its success on the success of the individual hotels, golf and SPA facilities, but on the success of the *overall destination*."[50] This is no metaphor: TEMES is not only investing in its property, but also to the surrounding community and area in many ways. For example, TEMES staffs the Costa Navarino personnel with locals in a significant percentage, and involves local businesses in its supply chain, all under a corporate responsibility logic.[51] Another, more striking example is TEMES's capital support for the upgrade of the local airport in the nearby town of Kalamata, which recorded a 1400% increase in traffic during the years after the first openings in the Navarino complex. Interestingly, the regional authority of Kalamata decided to rename the airport "Captain Vassilis Konstantakopoulos" in 2012, a year after the founder and visionary of Costa Navarino passed away. If nothing else, the renaming of a major public transportation infrastructure speaks to a territorial logic. But what I want to keep from TEMES's destination developing strategy is that this is a case in which the corporation does not just operate in a given location, but if needed, remakes the location to fit its standards, legitimizing its spending through the CSR rationale, and gaining in reputation among local communities and the greater public along the way. This process of tailoring the location in the standards of a corporation, or more generally of a productive regime, is of course not new and it poses the problem of the dependency it fosters; as the destinations are developed, they are also "stuck" with this very framing as "destinations" of this specific type.[52]

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[48] Melissourgos, "Τοπική-Περιφερειακή Ανάπτυξη, Τουρισμός, και Γκολφ," 2010.

[49] Kousounis, "Η Ελλάδα έχει έξι γήπεδα γκολφ αλλά θα έπρεπε να διεθέτει… σαράντα έξι," 2008.

[50] TEMES, Sustainability Report, 2015: 9, 15. Emphasis added.

[51] TEMES, Sustainability Report, 2015. The question as to whether this constitutes a positive overall footprint in the region's economic development is an important one, and with no easy answers: if in short-term employment rates are encouraging, the economic dependency that such large-scale employers create may have adverse long-term effects.

In an illuminating conversation I had with Christiana, a hotel executive from the department of sustainability, she paused to emphasize the nuanced difference between the name of the hotel and the name of the region. Right at the moment when she explained that a total of 2.5 billion will be spent not only in the hotel property but also to "whatever else needs to be done in the area"—meaning infrastructures not necessarily connected to the Costa Navarino property—she stopped her train of thought and briefly reflected: Many times people and the media get it wrong, she explained, conflating Costa Navarino the region with Costa Navarino the development. No, "Costa Navarino is the region, whereas the hotels should be referred to with their names: Navarino Dunes, Navarino Hills, Navarino Blue etc but it's all within the Costa Navarino, which is the area." This is very interesting, because judging from the firm's logo, which reads "Costa Navarino," this suggests that the vision of TEMES is much larger than the hotels: it is the "area Costa Navarino."[53]

Driving from Athens to Costa Navarino a few days earlier, I had noticed that road signs separately referred to both Costa Navarino (the area) and, strangely, Costa Navarino

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[52] I will elaborate on the staying power of tourism's spatial programs in the Conclusion. In using the word "stuck" I follow the work of Cordoba Azcárate, *Stuck with Tourism*, 2020; see also Hadjimichalis, "Η Πύλος χωρίς γκολφ, ας ελπίσουμε και για τη Σητεία," 2008.

[53] Interview with a Costa Navarino hotel executive from the department of sustainability. June 14th, 2022.

(the hotel). Moreover, the signs to Costa Navarino (the hotel) were brown. Brown background is used in highway signs internationally to indicate areas of recreation and tourist interest. It must have been 50km away from Costa Navarino when I saw the first one. For Greece, this was somewhat peculiar. Not so much because the country is known for its poor road signage, but because brown signs will usually indicate archeological or other heritage sites and greater recreational areas—not hotels. When hotels do indicate their presence, they do so with a small privately-made sign on the side of the road, which is many times also informally installed. In the case of Costa Navarino, the signs follow the official convention and are side by side with state-installed highway signage. What's more, even in cases as significant as the Acropolis, or the palace of Knossos, brown signs wouldn't be encountered in the 50km range. Apparently, as a destination, Costa Navarino competes with sights of national importance, making it clear that Costa Navarino is not just another hotel on the way—rather it is treated as a *tourism territory*.

Later in our discussion, my interlocutor spoke of the "environmental mindset" of Costa Navarino, and brought up the weather and measuring stations that the hotel has installed "at the areas we are interested in." Note that some of these areas, such as the Gialova lagoon, are not and cannot be formally owned by the hotel, because they are protected areas of the state. Still, the corporation in collaboration with the research station, installs measuring devices and collects environmental data. The NEO contributes to these territorial aspirations beyond the weather stations. Although it started out as a climate change research station, it has gradually transitioned towards research for coupled human-environment system dynamics in the surrounding area of coastal Messinia, studying the lagoon, the agricultural systems, and pressures from tourism.[54] What does the executive mean by proclaiming that the corporation is “interested in” certain areas? What kind of interest is this? How does concern, curiosity, and economic motivations play into this statement to transform territorial ambitions into territory? These are the questions I am turning to in the final subsection of this chapter.

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[54] See for example: Maniatakou et al, "Unravelling Diverse Values of Ecosystem Services," 2020; and Maneas et al, "Anthropogenic Changes in a Mediterranean Coastal Wetland during the Last Century," 2019. Both are papers studying the wider socio-ecological environment of Messinia and involve NEO researchers.

Interests entangled, co-producing stewardship and territory

The Navarino Environmental Observatory is located just outside the fence of the Navarino Dunes golf course, but within the hotel’s land property. It’s a building identical to three neighboring ones, where the “Navarino Associates”—also known as the low wage labor force of the hotel—are hosted for the duration of their seasonal employment. The temporal pace of the complex follows the workers’ shifts, and so young people are seen walking in and out continuously during the day, walking to the side entrances of the resort. But the observatory operates on a different clock, seemingly independent of the hotel’s. Although the staff of NEO have regular meetings with the sustainability executives to discuss ongoing projects, new initiatives, collaborations, funding, and communications, they mostly operate on the schedule of their research in a mix of remote work and periods of on-site data collection and processing. Besides the few permanent researchers and associates, the station also hosts presentations, workshops, summer schools and visiting researchers. When I arrived at the station, a soil science class from the university of Stockholm had just arrived, preparing for a one-week intensive workshop on soil data analysis. The next morning, Giorgos, the station’s lead researcher, presented past and present projects undertaken at the Observatory. Notably, the story of the Observatory was told completely detached from the story of the hotel corporation where the NEO is hosted in, partly funded from, and bears the name of. In the next days, during my conversation with the visiting researchers, neither the students nor their professor had realized that the Observatory was part of the hospitality organization. In our conversations, Giorgos kept emphasizing that TEMES and the Costa Navarino are not involved in defining the research agendas and do not influence their research. He even remarked that many times he presents himself as a researcher from the University of Stockholm, "because people have trouble understanding what NEO even is."

That is, in Costa Navarino and the Observatory, research and hospitality are presented as two separate projects. There are two points to make here: One, by hosting the Observatory in a specific place and temporal context, Costa Navarino already is influencing what type of research the Observatory undertakes. It was constituted as a climate change research, and it was founded in the context of ongoing doctoral dissertation projects of students from the university of Stockholm on paleoclimatology and atmospheric sciences. At the same time, as we will see, the hotel is ad-hoc and de-facto implicated with the research of the Observatory, in the real-polotik context of the region. But there is a second point to make on the apparent separation of the two functions of the organization: Even if the hotel was not directly influencing the research, the inverse traffic of influence is definitely taking place, as the case of the Gialova management that I will elaborate below shows. In any case, it quickly becomes clear that the projects of environmental research and hospitality are entangled already from within the organization.

In his introductory presentation to the students, Giorgos particularly emphasized the findings on the increased salinity of the nearby Gialova lagoon, an important habitat for migratory birds and biodiversity hotspot, that is now reaching boundary levels, threatening the fish populations of its freshwater environment. After the lecture, I joined the visiting group of students for a scheduled welcome-tour around the area and its natural sights. Guided by one of the resident researchers at NEO, the tour was suggested as a way for students to get acquainted with the surroundings, as they would then be asked to pick a location and take measurements for their soil biology summer class. The tour started from the fishery and eco-tourism station of the Gialova lagoon.[55] Upon arrival, I noticed that the visual identity of the station is clearly reminiscent of the hotel's—they both bore similar font and graphics. Before I have time to enquire, the supervisor among the three fishermen on shift started introducing the work of the station and very proudly pronounced their immediate affiliation to both Costa Navarino and NEO. As I remarked earlier, the Gialova wetlands and its surroundings are areas under overlapping protection regimes, both from the Greek state and the European Union. However, the fishing and eco-tourism operations—that is both the commercial and recreational—are outsourced to a private entity after a public bidding competition and for a duration of five years. As I clarified through my discussions there, the TEMES corporation had formed a subsidiary company and bided for the rights to operate the fishing station. Interestingly, TEMES's sustainability reports in these past years mentioned nothing of this initiative, at the same time when all other environmental programs—turtles, African chameleon, water management—are at least briefly, if not more extensively presented.

The point here is not so much to quickly conclude that "the hotel controls the lagoon," first because this is not entirely true, and second because saying so would not explain much. Why would a massive development and hospitality organization, with a very lucrative set-up, want to get involved in the not particularly profitable management of the fisheries? The multi-faceted framing of territory that I have been working with here and my focus on the terrain, the concept of "destination development," and the "territorial ambitions" I unpacked above, all are already suggestive of they "why's:" Thinking of the geostrategic control and ordering of biogeophysics as a territorial project becomes entangled with the hospitality project. But even with that in mind, what was the process that led the corporation in its involvement? It seems here important to understand how the lagoon became the center of attention for both NEO and the corporation, and what have been the power dynamics in the constitution of this complex territory.

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[55] It is important that this was selected as the first stop for the tour; we could very well have started from other more scenic and more touristically well-known sites, such as the world-renown Voidokilia ring beach.

A first important point to make in this discussion is that the corporation is not one singular and cohesive entity. Within the same organization, despite the seeming coherence of brand identity and corporate culture, and despite the seemingly straight-forward and universally shared goal of profit maximization, incongruences in motivations and political beliefs create a complex and contingent landscape. Instructive in thinking these questions are some insights from the anthropology of corporations and organizations. Anthropologist Sylvia Yanagisako, in her ethnography of small-medium Italian garment firms, observes the complexity of motivations behind seemingly irrational business decisions.[56] Negotiations of kinship relations, heritage, responsibility, and lifestyle influence individuals within the corporation towards decisions that may even prove detrimental to the company's survival. Historical and cultural contingencies of this sort bring Yanagisako to doubt grand theories that claim to understand and explain the course of capitalist corporations by simplifying their motivations as merely driven by profit.[57] Another anthropologist, Marina Welker, makes a supporting point in her study of a mining corporation in Indonesia. Writing on the Corporate Social Responsibility reporting, Welker notes that "just as the business case for CSR is malleable and protean, allowing morality to be economized in various ways … so too are corporate interests themselves. Even when the goal is profit maximization, that goal forms a large and loose target, an imprecise orienting device rather than a clear roadmap prescribing a fixed route for corporate managers and staff to follow."[58]

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[56] Yanagisako, *Producing Culture and Capital*, 2002.

[57] Yanagisako advances her points in response to works such as that of David Harvey's 1989 book *The condition of Postmodernity*. See: Yanagisako, *Producing Culture and Capital*, 2002: "Introduction."

Similarly, in the case of Gialova wetlands operation, there was less of a "clear roadmap" and much more of a loose—and loosely defined—goal of protection, care, and stewardship that showed the way. According to Giorgos, the lead researcher at the Observatory, it was during their research on the biophysical understanding of the lagoon's ecosystem that they realized its dangerously high salinity levels. Decades of pesticide use in the nearby olive groves and negligent estuary management had altered the balances of fresh- and salt-water to an alarming degree. They way that Giorgos put it in our conversation is that they (at the Observatory) felt they needed to do whatever is needed in order to "save" the wetlands. With their work they showed that the management of the estuary mouth is an important component of the salinity balances.[59] The highest bider who gets to commercially exploit the fish stock of the lagoon, is by their contract, obligated to maintain the estuary mouth in good condition, something that, as Giorgos emphasized, previous operators would systematically avoid because of the costs of said maintenance.

But how does this knowledge come to be acted upon? The Observatory is a privately run organization, with ties to research institutions, yet with no regulatory or policing power. To bridge this gap, researchers from the observatory knew that they would have to leverage whatever power TEMES could provide. In our discussions, Giorgos explained that presenting the ecosystemic problem as simultaneously a problem of the region's image, and make visible how tourism may be affected, this could potentially incentivize the hospitality organization to assist them in taking action. The narrative was that increase salinity could kill certain fish populations, potentially provoking a trophic cascade to the lagoon's ecosystem. The issue would literally surface as dead, stinking fish: "Imagine people canoeing in the eco-tourism excursion and witnessing dead fish and other carcasses within a supposedly pristine natural area" Giorgos said. Indeed, the Observatory and TEMES came together to find fishermen with experience in freshwater management and create a subsidiary that would bid and acquire the rights for the commercial and recreational operation of the lagoon. Despite the fantasy of separatetedness between Observatory and TEMES, the organization's mediation in the case of Gialova shows the de-facto and ad-hoc way that the corporation becomes involved in the process of research and management. Besides, as Giorgos accepted, the corporation is an important stakeholder, and all stakeholders need to be involved in the process of decision making and priorities setting. As I remarked in chapter 1 following Bruno Latour, in matters of stewardship technoscience, power is in the associations.[60]

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[58] Welker, *Enacting the Corporation*, 2014: 26-7.

[59] Research in the observatory currently continues to explore this area, asking whether there is also time component to this management process—when is it better to clear the mouth from sediments and other obstructions?

Now we can attempt to interpret what the hotel executive meant when saying that they are "interested in" certain areas: across different agents within the corporation, initial research curiosity became concern for ecosystemic balances, which in turn became concern for potential failure of a market product. In this translation process, stewardship, as an abstract geoethics of care, provides an inoculating baseline narrative. Although they chose to conceal their indirect involvement, or at least not publicize it, the hospitality organization acted to take responsibility in preserving the wetlands.

References to stewardship come from all sides. In our conversation, Giorgos said characteristically that "people needed help and we came to give it." He mentions that the Observatory's research motivated fishermen and locals to know more about the function of salinity in the ecosystem and "everyone became an amateur 'salinitologist'"[61] Costis, the supervisor at the fishing and eco-tourism station at Gialova presented their work as neither commercial nor recreational: "the most important thing we do here is managing the freshwater." Although they cannot—in Costis's words—"actively intervene in the system" by introducing other species or enhancing populations, they can, and they do, manage the existing populations by manipulating the quantities to be fished.[62] At the same time, they repair and maintain the estuaries and lagoon banks, while systematically taking measurements of salinity in more than five points in the lake. Costis repeatedly said that the work they do is "not just for the lagoon, but for the betterment of the environment of Messinia altogether."

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[60] Latour, *Science in Action*, 1987.

The complexities of differentiated agency among different members of the corporation aside, stewardship—as both a motive and an alibi—reshapes territory. And it does so in at least two ways. Firstly, materially. It is through the sustained calculations of the Environmental Observatory of a hospitality corporation that the nationally protected area is currently shaped, its estuary maintained, and its fish populations managed. Secondly, and more importantly, I think, is here the potential that this stewardship gatekeeping possesses. The process of interest creation and evolution that I traced above is important because it speaks to the construction of programmatic priorities for a place, which has the power to reshape the imaginary of a place, and eventually the place itself. In the case I analyzed above, the Observatory created a discourse where there was none, directing funds and attention towards a certain topic the the Observatory thought important. The benevolence of environmental protection and direct action preclude the absence of regional priorities and planning (either by the community, the municipality, or the state). Costis, the supervisor at the Gialova station, said that because of the pushback that Costa Navarino encounters from local communities, he thinks that it makes sense that TEMES is pursuing matters institutionally by lobbying the regional authorities. Convinced as he is about the necessity of the research that is done in the Gialova lagoon, he said that such lobbying is required as they "are trying to have the state put their seal [of approval] into the research [they] are producing." At the same time, Giorgos told me in our conversations that the Observatory may have started from climate change research, but is in the recent years transitioning toward topics of regional management. These may not be only relevant to the specific locality of Messinia, "but more generally of the Eastern Mediterranean, because for example, the Gialova problems are characteristic of other similar ecosystems too." And he continued: "Regional management issues may include more qualitative elements ... now we have the protocol and methodology to approach them, talk to the local community, engage with stakeholders, etc."[63] This, he thinks, is a step away from doing only "pure science" to engage with "the realm of society." Something that reveals his understanding that not only research on the realm of society is not science, but also that the two are distinct. One will do either the one or the other. At the same time, if the actually-existing and quasi-accidental regional management at the Gialova site was a result of "pure science," the potential of such interventions multiply as the Observatory explicitly turns its focus on "regional management," extending to the implicit territorial project of the corporation.

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[61] Giorgos made a comparison to how people were becoming "amateur virologists" during Covid-19.

[62] It is interesting that although Giorgos, the lead researcher, spoke of precise measurements and timetables guiding fishing as necessary to optimize the ecosystem management, Costis on the other hand, the supervisor of the station, said that fishing is done with approximations and it's impossible to precisely calculate quantities.

Given that this is an indirect and implicit way of shaping priorities and futures for a place, then Costis's understanding of their work is telling of the imaginaries that construct natures of tourism. I asked him his opinion as to whether things are better in the region after the tourism development probed by Costa Navarino. Without hesitation

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[63] Interestingly, the all-male crew of the Observatory and the Gialova station includes no social scientists.

Costis responded positively, first explaining that "tourism has created jobs for hundreds of people." After thinking for a while, he referred to Dubai as a counter-example. "What happened there failed," he said, as "everything is [to a large percentage] empty." According to him this is because people want to travel in order to witness the natural environment and not the man-made. Costa Navarino stands at the opposite end as a successful example, he thinks, because in Messinia the natural is nurtured and protected, "and this is what tourists want to see." Aside of the fact that the new real-estate developments with high-end villas sold by TEMES are, similarly to Dubai, mostly empty—bought by the few and enjoyed for a dozen days per year—, Costis's statement is interesting because it reveals how he sees his role as a steward: The biogeophysical is to be protected because this is what the travelers want to see.

Chapter 3

Again, the Grain:
earth processes, imaginaries of equilibrium, and beaches out-of-order

Out for their morning ride early on a November weekday in 2015, two amateur fishermen were moving parallel to the coastline of Lefkada island, in the central-eastern part of the Ionian Sea, when they started noticing a deep, roaring echo rising from the shore. Turning towards it, they witnessed what was an apocalyptic spectacle: tons of stone and soil were plummeting from the precipitous waterfront cliff, covering the shore in a thick cloud of white debris. They pointed their phones and started videographing the fierce landslide, in what was later to become a viral clip. As they were out in the sea they couldn't have sensed how the land had shaken just moments ago, but they knew that what was in front of them was the popular and usually busy beachfront of Egremni—in Greek literally meaning a steep rock face, a precipice. Upon their return, they would hear that a strong earthquake, of magnitude 6.1 Richter and with a shallow epicenter just 5 km offshore, had hit the island, claiming the lives of two people, injuring many others, and causing major property damages, forcing the authorities to declare the island in a state of emergency. The fishers' video and images travelled in local and national news reports as evidence of the intense quake, but also eventually caused various instances of a peculiar headline proclaiming that "the beach of Egremni had disappeared". News traveled fast, and a number of globally-read media, such as *Lonely Planet*, reproduced the claim, with a sense of implicit grief for the loss of the beach.[1]

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[1] See: Vladisavljevicv, Lefkada's beautiful beach disappears after quake, 2015.

Conflict and lamentation for disappearing beaches was not new and certainly not coming only from outsiders. For at least a decade before this earthquake, an ongoing debate had been heating up around the intensifying phenomena of erosion in the western shorelines of Lefkada—a debate still ongoing. Sandy fronts have been narrowing down to non-existence in the north-western part of the island, leaving coastal road infrastructure and properties exposed to the winter storms and waves. Multiple scientific studies commissioned by the local authorities suggested that sand nourishment is a way to push back the phenomenon, and 2015—the year of the aforementioned earthquake—was a pivotal year, as the municipality was granted the permits required to start the replenishment. The necessary material would be mined from the northern part of the island, in a malleable stretch of land called "Ammoglossa" (literally meaning sand tongue). This is where some of the sand from the eroding beaches further south is carried, not only continuously altering the shape and outline of Ammoglossa, but also inadvertently obstructing a centuries old infrastructural canal that separates the island from mainland Greece and that serves the town's harbor—that is now primarily a marina for recreational boats. Since 2013, the "excessive" sands accumulated at Ammoglossa are dredged to keep the Canal operational, yet only a fraction of the material has been used for beach nourishment, while the rest sits in piles near the water, slowly and steadily scattered around with the wind.

Although specific connections between the earthquake and coastline erosion were made by scientific reports and the press, the two are generally not considered in parallel, which is what I attempt in this chapter. Commentators noticed that material accumulations at the canal's entrance increased during the winter of 2015-16 and reasonably coupled this to the rockfalls and debris generated by the preceding earthquake: Sand and mud were washed away and carried northeasterly across the western shores, adding to the material that could be dredged and used for replenishment. But here I want to consider these relations beyond the cause-effect explications of coastal mechanics, considering the suite of geologic processes together, and attending to how hosts and visitors perceive and respond to them. For these earth processes, I want to argue, unsettle not just the acquiescence of tourism imaginaries, but also the distinctions between what is natural and man-made, stable and dynamic, creative and destructive. At the same time, these geologic processes call for practical environmental management, triggering series of actions of maintenance and repair, through which the host communities negotiate the ambiguities and dilemmas unearthed.

Earth processes and tourism operate in a counter-intuitive common ground, made visible in places such as Lefkada. The two are both constituent of "islandness" and "coastalness" through their geo-morphing (earth processes: earthquakes) or socio-morphing (economic processes: tourism) capabilities. Throughout the island nations and archipelagos of the world—in the Eastern Mediterranean, the Malay archipelago, Polynesia, the Caribbean, and the Canaries—volcanic, seismic, sedimentation, and erosion activities have literally created these places and the landscapes compelling to visitors from across the world. At the same time, these same forces have also interfered with the very tourist economy that they helped create and that is so essential to these places. Geologic processes and tourism are complexly tied together. At their nexus emerges the quintessential spatial form of the beach, which will be the focus of the following investigation. On the one hand, the beach is connected to the deep landscape identity of these tourism places, amalgamating social and geomorphological elements, while also being itself frequently renewed by the same processes. On the other hand, the beach is a major container of the programmatic workings of tourism, reinforcing tourist imaginaries that in turn shape it back. However neat the two connections may be described in separate, their intersection is rather uneasy and confrontational: landslides and rockfalls regenerate the shore, but jeopardize the lives of sunbathers; erupted flowing lava shapes novel coastal lines, but makes tourists abandon their vacations in a state of fear.

Thus, in what follows I juxtapose tourism and earth phenomena around the moments they violently interact. In these moments, aspects of the identity of the host, created by tourism over multiple generations, clash with aspects of the identity of the islander, that has been forged through the presence and dynamics of the landscape. How is stewardship negotiated and practiced when the stewards are forced to face the deep workings that make and unmake the object they wish to "protect"?

In contemplating these questions, the grain—that of sand, limestone, or other minerals—keeps appearing in different formations as one of the protagonists of the story. It is an insistent agent in constant transformation, constitutive of cliffs, beaches, landslides, blockages, and civilian associations. As Aliki, retired municipal employee and a long time resident of the island told me, "the sand keeps returning in cycles where the currents always have brought it, overcoming new obstacles, nourishing and reshaping the beach [of Ammoglossa] that changes form now and again." But beyond its literal expression, the title of this chapter establishes a connection to James Scott's 2017 book *Against the Grain*.[2] With a different sort of grain in mind, Scott argues that the sedentarism related to agricultural settlement was not a free choice made by the peoples as a better and more effective alternative to nomadic life, but rather was forcefully imposed by the early states. If we are to side with Scott's analysis, it has been the modern rationale of 20th century historians that has constructed the narrative of sedentarism's superiority and energetic cost-effectiveness. In what I believe is in weird alignment to Scott's project, here I contribute to the discussion of a similarly constructed fixation with sedentarism, this time as it refers to the planetary body that hosts humans. By pondering the planetary, other geographers have observed that the modern subject was co-constructed with the belief of a stable earth.[3] To this I will add the specific angle of tourism environments, that are both ontologically and epistemologically constructed as stable and everlasting, masking the very processes that helped create them.

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[2] Scott, *Against the Grain*, 2017.

Disaster framing and temporalities misunderstood

The Ionian islands sit right on the margins of the Aegean plate, under which the African plate is steadily submerging. Just a few kilometers away from their western shores, lies the convergence of two active faults, the Hellenic Arc and the Cephalonia Transform Fault.[4] The islands themselves are partly a manifestation of the very slow but very intense processes that are happening kilometers beneath them, something that becomes especially apparent in, for example, the rough and craggy landscapes of the western shores of Lefkada island. Earthquakes have frequently shaken these island communities throughout their recorded history. One of the most destructive events in greek history was the 1953 series of Ionian earthquakes, that first hit the island of Ithaka, but its shocks lasted for two more months, essentially bringing Ithaka, Zante, and Cephalonia down to rubble.[5] Lefkada also has a long history in this regard, with several major shakes being recorded in its contemporary history, in 1869, 1914, and 1948.

But while in those cases tourism was still non-existent, during the more recent shocks in the area, in 2003, in 2015, and in 2018, the industry was important if not indispensable. In these latter cases, recovery discourses and actions concerned not only the livelihood of the locals, but also the resilience of tourism infrastructures and the touristic product. One instance when this became apparent was the 2015 "disappearance" of the Egremni beach that this chapter opened with. Egremni is a thin sandy strip that stretches for several kilometers across the western coast of Lefkada island, in between the Ionian sea waters and an approximately seventy-meters-high and steep cliff. In travel sites and ratings, it regularly features as one among the most beautiful worldwide for its white sands, turquoise waters, and rough purity. During the earthquake, rocks and debris covered most of its open surface, but more importantly, destroyed the ~400-step staircase and damaged the nearby road infrastructures, rendering access from the mainland impossible. In the municipal councils, public hearings, and local press reportages that followed the seismic event, the restoration of the specific beach and its accessibility, as well as the restoration of the media image of Lefkada and its beaches was extensively debated. As I will discuss later, although the geophysical processes removed excess debris and re-flattened big parts of the beach by the following summer, it was not until 2021 that the staircase and pedestrian access was restored.

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[3] Clark, *Inhuman Nature*, 2011.

[4] Herman et al, “Seismicity of the Earth 1900-2013,” 2015; Louvari et al, “The Cephalonia Transform Fault and its extension to western Lefkada Island (Greece),” 1999.

[5] Moschopoulos & Maraveya-Kosta, *Αργοστόλι*, 2007.

Coastline erosion is another geophysical process that transports materials and alters the landscape. However, in contrast to earthquakes that "just happen" and no causes or "history" are sought, erosion is scientifically understood and discursively constructed as a phenomenon with causes and history that matter. Sand, mud, and other sediments are constantly moving and repositioning under the effect of weather elements, waves, currents, and nearby river estuary and stream outflow dynamics. These material drifts follow "natural" cycles that may range up to three years. But when the profile of the shore does not return to its previous state after this period, the process is identified as erosion.[6]

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[6] Vradis, "Διάβρωση των Επτανησιακών παραλιών," 2016.

According to one of the many studies commissioned by the municipal authorities, erosion processes have been underway in the western coastlines of the island at least since the mid 1980s, and have various anthropogenic causes such as changes in coastal land uses from cultivation to reforestation, extensive underwater sand dredging, installation of rockfall retention infrastructures, and construction near the coast.[7] The resulting littoral landscape changes began to concern the locals in the early 2000s and the problem has been vividly debated since.

Both coastal erosion and earthquakes are defined and approached as natural disasters. Especially earthquakes are extraordinary in the way that they may induce "associated secondary disasters": besides the direct effects that the shake itself may have to the built environment, the infrastructures, and the human psyche, they are frequently followed by landslides, tsunamis, or failures of lifeline infrastructures.[8] But erosion too, by weakening the ability of the coast to absorb stress, makes the littoral areas more vulnerable to associated disasters such as storms and floods. A mapping of the contours of the existing research on these phenomena reveals a predominantly managerial approach to the matter, which aims to address the disaster effects or the mechanical causes of failures, without necessarily comprehending the socio-political context. Such framing of disasters is essential in structuring the responses to the phenomena, but it is also, I want to argue, instrumental in eclipsing their temporal understanding. Temporality is both extraordinary and crucial for these geophysical processes: earthquake shocks are extremely short, yet years and centuries in the making; coastal erosion is a very slow process, that may only become visible in the span of human generations. They both defy human-scales of understanding and experiencing the temporalities of the landscape.

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[7] Rousakis et al 2006.

[8] Hall & Prayang, "Earthquakes and Tourism," 2021: 3-5.

Framed as disasters, earthquakes and coastal erosion are approached by policy practice, popular understanding, the media, and in many occasions the academic literature on disaster management with a disproportionate emphasis on the hours and days immediately surrounding the event.[9] This problem has been pointed out in a more general criticism in disaster studies, one that has been intensified in face of the recent ecological catastrophes. Critical scholars have shown both that disasters may be long in the making before they strike, as well as that they persist in their physical and, mainly, psychosocial impacts for a long time after their initial eruption. Anthropologists Vincanne Adams, Taslim van Hattum, and Diana English have documented this through their study in post-Katrina New Orleans, finding that their informants were experiencing forms of trauma induced by lasting suffering, something they called Chronic Disaster Syndrome.[10] At the same time, what precedes the disaster, especially in the cases of earthquakes is rarely addressed. That is, what created the circumstances within which the said event appeared more or less catastrophic receives scant attention. In one example that is characteristic of much of the literature, a study frames earthquakes as "no-escape natural disasters," because there is no "lead-time"—no time to warn people so that they can prepare and react.[11] Although this frame is helpful to understand emergency reactions, it implicitly sustains a portrayal of such disasters as "having no past." Again, as critical scholarship has previously shown, this obscures the fact that disasters are embedded in social specificities, which "prepare the ground" for the disaster to unfold when the natural phenomenon strikes—be that an earthquake, a cyclone, a tsunami, or a heatwave.[12]

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[9] Hall & Prayang, "Earthquakes and Tourism," 2021.

[10] Adams et al, "Chronic Disaster Syndrome," 2009. In what is rather an exception in the literature on earthquakes, psychologist Shigehiro Oishi and his colleagues looked at the Great Hanshin-Awaji seismic event in Japan, similarly reporting in their self-describing subtitle: "16 years later victims still report lower levels of subjective well-being." Oishi et al, "Psychological adaptation to the Great Hanshin-Awaji Earhquake of 1995," 2015.

[11] Huan et al, "No-escape natural disaster," 2004.

A second point of misrepresentation of the temporality of earth processes has to do specifically with earthquakes: they are reduced to the one, or just the few most significant shocks to be sensed on the populated earthly surface: an event *punctuating* time, and one awaiting to be addressed by the process of "recovery" that *follows*. Crucially, this way of thinking fails to grasp the continuity of the earth processes. According to the United States Geological Survey there are approximately 500,000 seismic occurrences recorded every year. That adds up to more than 1,300 daily geologic tremors—minor, and sometimes not.[13] In other words, the earth is constantly at move: the plates slip against one another, faults move up and down, reverse and sideways, magma flows through the lithosphere, pressures change, and energy is released; all in recurring processes. The weakness of the "event" framework became apparent in the case of the Canterbury 2010-2011 earthquakes, in which severe aftershocks continued for fifteen months, eventually adding up to four major quakes over this period, and thousands of minor in between.[14] Recursivity, then, a characteristic inherent to the process of earthquakes goes totally unaddressed. And while it is understandable why in a problem of disaster management some researchers and policymakers focus on the isolated major events that call for their urgent attention—since lives, properties, and infrastructures are in need of immediate relief—, inflating this type of conceptualization, obstructs the understanding of the earth process ongoingness, and therefore the embeddedness in the experience of place.

Tightly connected to, and arguably co-constituted with, the temporal misrepresentations explained above with regards to both types of earth processes, is the linear perception of recovery and restoration of some form of balance. Dominant in the bibliography and practice of disaster management is an implicit consensus that the remediation process has a starting point—the event—and an end point and goal—the reinstatement of "normalcy".[15] In the literature and practice, this new balance is of two kinds: old or new.[16] The first is associated with the idea of societies and places "bouncing *back*" after crises hit. Here, the recovery process aims to restore the pre-earthquake reality. According to tourism and business researchers Michael Hall and Girish Prayag, who conducted an extensive review of the relevant literature on earthquakes in tourism environments, this approach is prevalent in disaster management models and economic approaches to post-disaster planning. As the same authors also observe, more recently this approach has been critiqued for being static, overseeing the place specific dynamics, downplaying the creativity and empowerment of affected populations, and failing to acknowledge the opportunities of a "clean start" mindset. Instead, they propose that a more productive engagement may emerge through the frame of resilience: thinking that affected places can rebounce to state different than the pre-disaster one, potentially equally or even more desirable than it.[17] The concept of resilience has been problematized for a number of reasons, including its ambiguity, which leaves the concept open for different and disparate paradigms of intervention, and its implicit normativity (that people and places *should* be able to bounce back), which within a neoliberal context leaves institutions and states unaccountable.[18] But more than those, it also points back to the problem of temporal framing of disasters and earthquakes. One wonders: Within which timeframe is it that this type of recovery works or should work? Is the property of resiliency itself adaptable to the different (and largely unpredictable) interim periods between shocks? Nevertheless, whatever the individual problems of each path, they both share a common foundational reference to notions of stability, normalcy, and equilibrium. Both "bouncing back" and "rebounding anew" suggest the attainment of a rather balanced system condition which can, or should, be found in the limited period of post-disaster recovery. And this, as the preceding analysis showed, is highly incommensurable with the ongoingness and recursivity of the nature of earth processes.

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[12] Klinenberg, "Denaturalizing Disaster," 1999.

[13] USGS, The Science of Earthquakes, 2019.

[14] Becker et al, "When the earth doesn't stop shaking," 2019.

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[15] Hall & Prayang, "Earthquakes and Tourism," 2021: 19; Muskat et al, "Integrating tourism into disaster recovery management," 2015.

[16] See also: Cowell, "Bounce back or move on," 2013.

[17] Hall & Prayang, "Earthquakes and Tourism," 2021: 8-9.

[18] Pizzo, "Problematizing Resilience," 2015; Evans & Reid, "Dangerously exposed," 2013.

It appears, then, that contemporary disaster studies may suggest ways to mitigate and manage earthquakes, erosion, and their associated effects, but not to comprehend them in the complexity of their mechanics, timing, and embeddedness to places and landscapes. This speaks to an insufficiency of analytical tools, that some theorists have attributed to the thinking frameworks of modernity.

Establishing quiescence as the normal state which is only periodically and exceptionally unsettled is an idea that has reigned in sciences and thinking for the better part of modernity. As human geographer Nigel Clark posits, earth processes, or better, their systematic eclipsing, is intricately connected to our modern history and the human sciences' engagement with it.[19] Earth's shakes caused a significant shift in human thinking: drawing on the writings of the young Immanuel Kant that were authored in the aftermath of the Great Lisbon Earthquake of 1755, Clark maintains that this was an event that profoundly shaped modern thinking and subjects. "[T]he subject which Kant helped engineer started out as much a quivering refugee from volatile earth processes as a bold exponent of self-determination."[20] The tremor that killed dozens of thousands of people did not only expose the instability of the ground, but it emphatically brought humans against the asymmetric forces of an extremely violent nature, which in turn brought Kant to the realization that there is no meaning except for that which humans produce for themselves. Clark reads in this the undoing of the theological ideas of purpose and plan of the world that were prevalent in Kant's day: a "disinvestment of moral meaning from nature [which] cements the definitively modern distinction between the 'is': the realm of nature or the cosmos, and the 'ought': the sphere in which human life conducts itself"[21]. The domain of the social—people—was now only allowed to look into the domain of the social—social issues as opposed to non-human phenomena and things— leading the sciences of this domain within what Latour has called "a modernist parenthesis" and leaving them unprepared to confront the pressing contemporary environmental issues.[22] An important step towards reconciliation with an unstable earth came with the establishment of the tectonic plates theory in the late 1960s that constructed the image of a planetary body in constant internal upheaval. Its wide acceptance came after a decade had passed and the Tharp-Heezen map of the Atlantic seafloor was put together, essentially proving the theory and causing a paradigm shift in earth sciences.[23] However, the questions raised after the Lisbon Earthquake have essentially remained not just unanswered, but totally unaddressed in the social sciences.[24] This lineage and development of modern thought manifests in the contemporary narrow temporal understanding of the earthquake, that avoids to address its deep-time and recurring characteristics.

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[19] Clark, *Inhuman Nature*, 2011.

[20] Clark, *Inhuman Nature*, 2011: 88-90. Clark refers to Immanuel Kant's 1756 text with the title *History and Physiography of the Most Remarkable Cases of the Earthquake which Towards the End of the Year 1755 Shook a Great Part of the Earth*.

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[21] Clark, *Inhuman Nature*, 2011: 89.

[22] Latour, "A Plea for Earthly Sciences," 2007.

[23] Oreskes, "From Continental Drift to Plate Tectonics," 2001.

[24] See also: Clark & Yusoff, "Geosocial Formations and the Anthropocene," 2017.

Constructed, imagined, and phenomenal equilibrium at the beach

Places and natures of tourism, and even more the beach in its "archetypical" form, are spaces of quiescence par excellence, and as such the confrontation with quakes and erosions and the problem of comprehending their inherent temporalities become even more intensely foregrounded. Notions of equilibrium play out in the beach landscape in at least four interweaving aspects: constructed and maintained imaginaries, the temporality of the tourist experience, elements of the phenomenal/ phenomenological experience at the beachfront, and macro-scale concepts and tools used in tourism planning and management.

From postcard depictions to sand replenishment, tourism imaginaries and their effects, sketch and deliver the beach as an idyllic, peaceful, and everlasting landscape. A first way that this is happening is by linking the beach with imagery and practices that invoke and prescribe a balanced, smooth landscape. Key in this development was the association of the beach with the "unexplored" tropical and remote islands of the Caribbean and the Pacific—an association particularly rehearsed within colonial contexts.[25] Remarkably, the paradise metaphor that so often accompanies the beach, is another way of communicating balance and equilibrium, with arguably theological connotations: If in the postwar era, as it has been well documented, the beach has been so strongly associated with holidays, then its experience comes as an escape and break from the tiring and deranged reality of the everyday, where humans are expelled after the Fall.[26] Being on vacation at the beach is "returning" to paradise, finding balance, and calming down.[27] The schemata above are constructed and perpetuated throughout the complex chain of the tourism industry, that is from hosts, to mediators, and to visitors. Destination management organizations, travel agents, hosts, or even the travelers themselves, create advertisements, digital media content, brochures, photographs, and stories that first function as libidinal triggers, creating the potential of places.[28] In turn, the expectations of both the image per se—the paradisic one—and its stability, are met through both the persistent and costly efforts of the hosts, and the practices of the tourists themselves, thus creating a positive feedback loop that concretizes the imaginary. Examining the perspective of the hosts, Uma Kothari and Alex Arnall, observe that the pristine and unpeopled representations perpetuated around the Maldives, call for ceaseless staging. As they write, "The vitality that inheres in the non-human world, such as the dynamism of plants, animals and microbes, and the continuous transformation wrought by chemical and biological action, necessitates an endless endeavour to keep nature at bay."[29] At the same time, tourists are "initiated" to the stereotypes of the landscape, further gazing at it within the given framework, and approach it as in a state of natural balance which they also need to respect.[30] Overall, the idea of equilibrium is inherently tied to the social construction of the beach as spatial and cultural form, and is systematically maintained as such.

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[25] Sheller, "Natural hedonism," 2004; Waitt, "Selling Paradise and Adventure," 1997; Grove, *Green Imperialism*, 1995.

[26] Lencek & Bosker, *The beach*, 1998; Löfgren, *On Holidays,* 1999; Corbin, *The Lure of the Sea*, 1994.

[27] See also: Urbain, *At the Beach*, 2003.

The said imaginaries also have another, more covert form: As the media content and the practices of tourists reproduce and travel mostly unchanged through time, they create the impression of everlasting landscapes, as if these were remaining static throughout. This touches upon the temporal dimensions of tourism. In one of the seminal works in the theory of tourism, sociologist John Urry has written about the ordering effects of the aggregate tourist gaze.[31] But beyond this aggregate effect that stages environments over time, it is still necessary that each individual glimpse is satisfied: Tourists' glimpses vary widely among different travelers and traveling types in sharpness, rhythm and iteration, but what they all share is that they are by definition fleeting.[32] Knowing this firsthand, destination managers, authorities and hosts, understand that they need to maintain the particular staging and mitigate change that counters the advertised imaginary. Moreover, such maintenance needs to happen discreetly and behind the scenes, so as to not compromise the stage itself. The "unpopulating" of nearby locals that Kothari and Arnall observe as part of the pristine environment staging in the Maldives, finds its parallel in the securitization of Mexico's resort zones with armed guards, and the concealing of refugees, their boats and accommodation in the Mediterranean Sea as the refugee flows continue unabated.[33] Revealing is a also the slogan of a major hotel consortium in Greece, which prouds itself in delivering an "infinite lifestyle" in their coastal resorts.[34] In other words, touristic natures are better understood as branded products, that need to be as stable as possible.

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[28] Graburn & Gravari-Barbas, "Editor's introduction," 2011; Sheller, "Demobilizing and Remobilizing Caribbean Paradise," 2004; Waitt, "Selling Paradise and Adventure," 1997.

[29] Kothari & Arnall, "Contestation over an island imaginary landscape," 2017: 981.

[30] Urbain, *At the Beach*, 2003.

[31] Urry, *The Tourist Gaze*, 1990.

In addition to the ceaseless efforts for maintenance and stabilization, I want to suggest that there are also aspects of the human experience at the beach that connote to rebounding and equilibrium. This phenomenological approach is important in order to make better sense of the construction of imaginaries from both the sides of hosts and visitors. Human geographers, anthropologists and literature critics have shown how the biogeophysics of the beach may be interpreted by humans as having an inherent disposition towards cyclical, recursive, self-regulating processes.[35] Indeed, the constant splash of the waves guarantees an unending natural cycle. And every next wave that will come will erase footprints and marks left by humans and other forms of life in wet sand. In turn, the dry sand may be blown away but will be redeposited nearby. In constant move, the sand floor endures and adjusts to the many different activities it accommodates. Thus, the recursivity of the waves and the plasticity of the sand are experienced as an active system that works itself to balance. This is not to imply that any sort of "balance" is inherent to these systems, but rather that this is how they are many times perceived through socially constructed lenses; a phenomenal (rather than ontological) equilibrium.

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[32] Edensor, "The rythms of tourism," 2011.

[33] For the case of Mexico see: Córdoba Azcárate, *Stuck with Tourism*, 2021. For the case of refugee flows in the Eastern Mediterranean see: Acosta, "The Invisibilization of the Refugee Crisis," 2016. For similar examples from Hawai'i and the Philippines see: Gonzalez, *Securing Paradise*, 2013.

[34] Greece Is, "Twenty Extraordinary Luxury Hotels in Greece," 2020.

[35] Clark, "Living through the tsunami," 2007. Moore, "A Day at the Beach," 2015; Freed-Thall, "Beaches and Ports," 2021.

But arguably the most significant evidence of the connection between tourism—the beach—and the concept of equilibrium is found in the conceptual tools and metrics of planning and macro-management practices. To discuss this I will review the concept of carrying capacity, a prescriptive tool still very prevalent among tourism theory and practice. In the history of science, carrying capacity, after a career in logistics, came forth in natural sciences in the 1870s where it started revolving around notions of "natural balance" and "equilibrium."[36] From a static attribute of a given rangeland, it was reworked by biologist Eugene Odum to mean a dynamic equilibrial property of a natural system.[37] In tourism, the concept emerged in the 1960s, with the advent of mass tourism, and took off quickly.[38] By the early 1980s, the World Tourism Organization (UNWTO) would define carrying capacity in their reports as: "the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, sociocultural environment and an unacceptable decrease in the quality of visitors' satisfaction."[39] Since then, the concept has been criticized and has been updated to be less normative and more suggestive of limits and ideal quantities, yet it is still in use.[40] This is interesting, because carrying capacity in ecology and biology was considered as fundamentally flawed already in the 1970s. Around the same time, the 1977 Nobel Price in Chemistry for non-equlibrium thermodynamics to Ilya Prigogine, and the establishment of earth's constant upheaval through earth sciences, all contested the notion of equilibrium from various perspectives. And these developments did not remain isolated within the natural sciences, but rather influenced writing and research in the social sciences too, in what John Urry—the author of the *Tourist Gaze*—called the "Complexity Turn."[41] Regardless, and even if not with its early appeal, carrying capacity is still used and widely cited in tourism management and planning discourses. For instance, a recent study reads: "Now more than ever, the estimation of a beach's social carrying capacity (SCC) is of the utmost importance as it takes into account the beach users' perceptions of risk as relevant to their perceived safety and hence the overall quality of the experience."[42] Tourism studies researcher James Kennell, writing for Springer's 2014 encyclopedia of tourism, even sees a possibility for carrying capacity to rebound through big data and wide range indicators.[43] As an active planning tool, carrying capacity shapes the politics of tourism behind the scenes, thus silently but steadily embedding forms of equilibrium-thinking in tourism practices.

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[36] Sayre, "The Genesis, History, and Limits of Carrying Capacity," 2008.

[37] Odum, *Fundamentals of ecology*, 1953; as cited in Sayre, "The Genesis, History, and Limits of Carrying Capacity," 2008.

[38] Wagar, "The carrying capacity of wild lands for recreation," 1964. See also: Zelenka & Kacetl, "The Concept of Carrying Capacity in Tourism," 2014; Kennell, "Carrying Capacity," 2014.

Given the above, it becomes clear that tourism environments, and particularly the beach, are connected with notions of balance and equilibrium, in imaginaries and practices alike. Tourism destinations and landscapes are perceived as if being in a sort of constant equilibrium, a normal operational stasis to be visited, gazed at, and experienced. It is important to emphasize that this connection is not only socially constructed, but also tends to become prescriptive. In light of this persistent quiescence of the beach and touristic natures, shaking cliffs and receding sands emerge as especially disturbing phenomena. Consistent with their current framing as disastrous events, they are perceived as unpredictable externalities that need to be mitigated. Hence, the repair and maintenance efforts by the hosts appear to be an interesting place to look at in order to understand how the host community perceives their role as stewards of the land.

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[39] UNWTO, Saturation of tourist destinations, 1981: 4.

[40] Kennell, "Carrying Capacity," 2014. For criticisms and rethinkings see: Lindberg et al, "Rethinking Carrying Capacity," 1997; McCool & Lime, "Tourism Carrying Capacity," 2001.

[41] Urry, "The Complexity Turn," 2005.

[42] Zielinski & Botero, "Beach Tourism in Times of COVID-19 Pandemic," 2020: 11-12. For another recent example see Cheer et al, "Tourism and community resilience in the Anthropocene," 2019.

[43] Kennell, "Carrying Capacity," 2014: 2.

Processes of the Earth: disastrous, creative, natural, and unnatural

The staging of the edenic, quiet, and everlasting beach fails spectacularly at the moment of the rockfalls, and silently but steadily at the duration of erosion processes. Although the cliffy and craggy landscapes of the western Ionian shores do not exactly fulfill the paradisic, Caribbean-like fantasy, the persistent and ordering tourist gaze that scholarship has theorized masks the inconsistencies and only reconstructs what fits the narrative: in our case this means mostly the “untouched” surroundings, the bright white sands and the turquoise waters. Nonetheless, the rockfalls, the tremors, the sand drifts, and the receding beachfronts reveal an environment that is violent, noisy, tumultuous, restless, and energetic. In other words, the globalized tourist imaginary of a smooth shore clashes with the place-specific reality of a geologically active region in which the beaches are inherently connected to periodical generative shocks and flows. This dominant line of thinking refuses to register the earth processes as both constitutive of the geophysical entity that is the beach, and embedded characteristic of a landscape and place.

This conceptual conflict is imprinted upon both visitors and hosts. Before addressing the hosts and their responses, which will be my focus in most of what follows, I will briefly refer to the "outsiders"—including tourists and non-local media—to foreground the differing impressions. Popular media outside Lefkada widely reproduced the landslide video by the fishermen at Egremni, referring to it in their headlines variously as "breathtaking," "shocking," "dreadful," and "awe-provoking." Past visitors of the afflicted beach in Lefkada, commenting on social media and blogs expressed grief for "the loss of the beautiful landscape".[44] This view runs in parallel to the many media outlets (foreign or national) that shared the news of the Egremni landslides as a "disappearance" and "loss" of the beachfront.[45] Noteworthy is that when the earthly shakes provoke the surfacing or shaping of a "novel" beachfront, this creative process receives much less attention. After a 2018 earthquake in the neighboring island of Zakynthos, the creation of a new beach at the location Myzithres in the southern end of the island was only featured in a couple of local websites.[46] By contrast, the rockfalls at the world-famous beach "Navagio," which resulted in the serious injury of seven people, were experienced as a "biblical disaster."[47] Speaking to journalists after returning to the town, or later writing in blogs, witnesses described hearing "almighty cracking sounds" after which the beach descended to "chaos," with beachgoers "fleeting in panic" and "covered in blood."[48] Given the symbolic importance of the beach, quivering videos shot by tourists and and altered landscapes communicate insecurity and instability, precariousness and turbulence, all come in high contrast to the smooth, acquiescent, and innocent pleasurescapes of sunny holidays. Upon such revealing of a noisy earth, what prevail are negative connotations constructing the narrative of a destructive process that undoes the given natural settings.

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[44] Youtube Comments on the video from the Egremni landslides: www.youtube.com/watch?v=tFnVY4cT2yM

[45] Vladisavljevicv, "Lefkada's beautiful beach disappears after quake," 2015; Εφημερίδα των Συντακτών / https://www.efsyn.gr/ellada/koinonia/48739_exafanistikan-oi-egkremnoi-tis-leykadas-video

[46] Ημέρα Ζακύνθου / https://www.imerazante.gr/2018/10/28/185051

[47] Keep Talking Greece / https://www.keeptalkinggreece.com/2018/09/14/zakynthos-shipwreck-closed-cliff/

[48] The Guardian / https://www.theguardian.com/world/2018/sep/13/zante-beach-hit-by-tonnes-of-rock-falling-from-cliff; The Sun / https://www.thesun.co.uk/news/7250209/zante-cliff-collapse-navagio-beach/

On the other hand, the view of the same processes from locals is significantly different. During the municipality proceedings following the 2015 earthquake, succinctly summarized the sentiment: The beach at Egremni, he said, "does not get destroyed by earthquakes; rather Egremni is created through them."[49] Instantiations of this view were later shared by other discussants. Another official presented the earth processes as an attribute of the island's mechanics at large: "This is how Lefkada functions. It does things through earthquakes, brings down soils, creates beaches."[50] And another summarized: "We have to consider that Lefkada is so beautiful because of these very earthquakes".[51] Among the officials and civilians discussing that day after the shock of the 17th of November 2015, and despite the human casualties suffered, there seems to be a consensus that earthquakes are not inherently destructive, but with regards to geomorphology they should be considered as rather creative events. When referring to human lives, property, and physical infrastructures, they all make sure to acknowledge the danger that lies with seismic shocks, but when the conversation turns to the beach, the narrative also shifts to include a creative and regenerative potential. It is important to note here that the view of the earthquakes as creative processes is different than viewing them as "opportunities"—for a clean start, better infrastructure etc—as has been documented in the literature.[52] This is not to say that references to the "disaster as opportunity" rationale were completely absent among the discussants I studied. But such "opportunities" in the socio-economic realm are distinct from the interpretation of the creative and regenerative potential of geologic phenomena.

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[49] Lefkada Municipality Proceedings 286/2015: 22.

[50] Lefkada Municipality Proceedings 286/2015: 24.

[51] Lefkada Municipality Proceedings 286/2015: 27.

[52] See for example: Klein, *The Shock Doctrine*, 2007; Amore & Hall, "From governance to meta-governance in tourism?," 2016.

If with regards to the earthquakes the conceptual conflict concerns the destructive versus the creative potential of the geological phenomenon, the processes of erosion rather foreground the tension between natural and unnatural. In the early 2010s, the transfer of sand from the northwestern towards the northernmost shores of the island had created both visible erosion to the location of Ai-Yannis and a surplus accumulation of sand in the location of Ammoglossa that obstructed the Canal. As plans were finalized for three new jetties that would contain said sand accumulations away from the Canal's entrance in the future, and as the contractor started dredging the sand, some concerned residents in the island formed the "Civilian Association for the Rescue of Ai-Yannis Sand." In an open letter addressed to the minister of Internal Affairs, they demanded that the dredged sand from Ammoglossa is used to replenish specifically the beaches at Ai-Yannis, because this is where the sand came from in the first place. They write: "The transport of the sand from Ai Yannis to Ammoglossa is a natural process, just as the return of the sand by floats to the point where it comes from, at a distance of 3-4 kilometers, has always been a natural and [environmentally] gentle process."[53] This is what, later in the document, they call the "natural cycle of life at the beach of Ai Yannis," which in their view includes not only the waves, currents, and sand drifts, but also people periodically intervening to restore and stabilize the landscape.[54] In contrast, what is seen as destructive and unnatural is the pause of this cyclical process of human intervention in what they estimate is going on for about a decade, and the ensuing incompetent management by the state and regional authorities of the accumulated sands. *Not*-intervening is perceived as unnatural.

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[53] Civilian Association for the Rescue of Ai Yannis Sand, "Sand provision of northwestern Lefkada beaches," 2014: 2.

[54] Civilian Association for the Rescue of Ai Yannis Sand, "Sand provision of northwestern Lefkada beaches," 2014: 3.

To make sense of these perceptions of what is creative, destructive, natural and unnatural, I argue that we need to turn to the temporality of the landscape. On the one hand, the undoing of purity and pristineness and the destruction of a geomorphology that the tourists or non-locals refer to, is an instantaneous event. The altered condition of the landscape is compared to how it looked “before,” “during [their] stay,” or on a given date of visit: in all cases this is about a brief moment in time commensurate to the visitors’ fleeting glimpse. On the other hand, the temporal framework of the locals and local officials implicitly employs the lifespan of a person, the span of multiple generations, or even the deep time of the creation of an island. They don’t focus on any one earthquake or erosion “event,” but rather speak of earthquakes and erosion as processes, continuous and recurring, that act slowly but cumulatively. During the municipality assemblies after the 2015 earthquake, one local official says: “Whatever has been created in the west is a result of seismic shocks, erosion, waves, and landslides … this is nature”.[55] Similarly, in their 2014 letter, the island residents signing the open letter on the matter of sand, they remark that the circular process of sand movements go on for more than six decades: “this process was followed for decades and is an integral part of the residents' consciousness, their lives, their memory, but also that of their fathers.”[56] The form and identity of the biogeophysical landscape is forged through time and with the participation of people. A participation that is not just about passive cohabitation in an ecosystem, but that includes their active participation and intervention is considered part of the land and its memory: “All the peoples of Lefkada know that the sand of Ai Yannis belongs to Ai Yannis, [and] they know that the return of the sand from Ammoglossa to Ai Yannis has always been a natural environmental response, integrated into our culture and completely gentle and integrated into the environment and the natural procedures."

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[55] Lefkada Municipality Proceedings 286/2015: 27.

[56] Civilian Association for the Rescue of Ai Yannis Sand, “Sand provision of northwestern Lefkada beaches,” 2014: 2.

These pieces of evidence show that the understanding of what is "natural", and whether the earthquake is an internal attribute or external perturbation is contingent upon the temporal frameworks of the overall experience of place—over a lifespans for locals *vs* over a few days for tourists—which is also related to the temporal understanding of the earthquake itself. Also contingent upon this temporal framework is whether earth processes are considered a "creative" or a "destructive" force: longer exposures to place tend to understand the earth processes in their ongoingness, whereas short exposures focus on the isolated moments of the disaster. Thus, for the locals, nature is not about a stable biogeophysical milieu, but it is the process of their creation through earth processes in deep time. At the same time, for the locals, nature is not necessarily about an undisturbed non-human landscape, but one in which human and non-human entanglements have found a balance. In both cases, quakes, sand movements, and consistent environmental stewardship are a constituent part of the place itself.

Repair, maintenance, and the Anthropocene dilemma

Whatever the differing perceptions about what is creative and natural among locals, non-locals, and officials at different levels, one thing that can be said about both occasions of the 2015 earthquake and the ongoing discussion on erosion is that they are perceived as malfunctions in the smooth machine of recreation—for tourists and locals alike. Whether "natural disasters" or "results of incompetent management," these occurrences are approached by island residents and representatives as critical "out-of-orderings" of the beach: The popular beachfronts at Egremni, Ai Yannis, and Ammoglossa fail to serve their programmatic imperative. In the municipal meeting after the earthquake, a conversation on remaking the beach functional—by making it accessible and safe to bathers—took up a significant portion of the whole. Restoring access to and image of the beaches was deemed critical for the islands' touristic development and competitiveness.[57] Given that the island had declared an emergency, two people had died, tens were injured, hundreds were unable to return home, and road, water, and school infrastructures were damaged, this concern is significant. And it bears the question: Why do they think of an inaccessible waterfront, and a beach full of huge rocks and debris as "broken"? The issue does not stop in Lefkada. In March 2023, a Joint Ministerial Decision prohibited all access—by land and sea—to the famous Navagio beach in Zakynthos, where the landslides had caused injuries and chaos in 2018, as I referred to above.[58] The local municipal authorities were not consulted nor informed for the decision and issued a statement complaining that the government is closing down the most important sight of the island. If these are indeed natural processes —not least regenerative—why is it unacceptable to the officials' and residents' minds that the beach undergoes cycles of inaccessibility? There can be at least one version of the understanding of the beach as not necessarily accessible to bathers, in the same way as it is totally acceptable that volcanoes as geo-sights of tourism may alternate between periods of accessibility and inaccessibility. But in Lefkada this is not the case, and the order to the infrastructures of the summer must be reinstated, both in the case of the earthquake and that of erosion.

Putting the beaches back in order is a project of reparation: a teleological operation permeated by politics.[59] In infrastructure studies and STS it is a repeated truism that infrastructures become visible at the moment they break down.[60] But as the networks, the materials, and their affordances are being exposed, another thing also becomes visible, one that has received less attention: we see how things could be organized otherwise. Human geographers Stephen Graham and Nigel Thrift observe, "maintenance and repair can itself be a vital source of variation, improvisation and innovation. Repair and maintenance does not have to mean exact restoration."[61] Exact restoration has to be thought of as a highly political decision to uphold the status quo. And any decision towards exact restoration or differentiation implies a deliberate choice of priorities. Because infrastructures are essentially systems upon systems upon systems, the exact layering, the priorities and links among the layers is exactly what matters.[62] So what really becomes visible in the breakdown of an infrastructure is the implicit priorities that with time began to be taken for granted. The formulation of something coming out of order, first and foremost bears the question: Which order? And order of what system?

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[57] It is interesting to note that the beach at Egremni remained only accessible by boat for six more years.

[58] ΦΕΚ 2290/06.04.2023.

[59] Graham & Thrift, "Out of Order," 2007.

With this lens, we can interpret a number of decisions taken and struggles undertaken in Lefkada in the context of the beach restoration efforts in Egremni, Ai Yannis, and Ammoglossa. I will refer to three such instances, all of which touch on issues of stewardship and the production of territory through the shaping of the biogeophysical terrain and its technics. The first concerns the image and branding of the beach and the island. In the municipal assemblies following the 2015 earthquake, officials repeatedly pointed out that the reports which mention that Egremni disappeared, are not only mistaken, but are also damaging for the public imaginary surrounding the island's beaches. Instead, arguments are made for a publicity campaign to be designed in order to push back the narrative of "destructed beaches" toward one of "regenerated beaches." The narrative, these advocates believe, should be that Lefkada withstood, bounced back, and its landscape continues its natural cycles. Although the campaign did not actualize, it speaks to a specific way of understanding the geomorphological processes of the earth. At the same time, it is one conditioned by the imperative of equilibrium and also totally embedded within dependencies of tourism, in which the politics of reparation seek to persistently restore the previous recreation-oriented function of the beach.

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[60] Star, "The Ethnography of Infrastructure," 1999; Appadurai, "Introduction," 2016; Larkin, "The Politics and Poetics of Infrastructure," 2013.

[61] Graham & Thrift, "Out of Order," 2007: 6.

[62] See Carse, "Nature as Infrastructure," 2012; Carse, "Keyword—Infrastructure," 2017; Kanoi et al, "What is Infrastructure?," 2022; Bowker & Star, *Sorting Things Out*, 1999.

I draw the second case from the debates on sand replenishment in Lefkada around 2014. As I mentioned earlier, an open letter by the Civilian Association for the Rescue of Ai-Yannis Sand in September of that year asked for all the dredged sand from Ammoglossa to be "returned" to the eroded shores of Ai-Yannis. For them, the sand "belongs" exactly where it—literally—originated from.[63] A few months earlier, another civilian association, this time of professionals in the Eastern part of the island made the case that the sand should be equally distributed among the beaches of the island that most needed it. For them, the surplus sand naturally belongs to the island more generally, and should best be used for the promotion of the islands' interests as a whole. These interests are, according to them, not just to cure erosion in the western side, but also to fill with sand those beaches of the eastern side that are pebbly and rocky and therefore less attractive to tourists. In any case, "every grain of sand belongs to Lefkada" and should not be exported to other parts of Greece as it was common in the 1960s and 1970s, when the white and fine sand of the island was transported hundreds of kilometers away to construct the beaches of the Athenian Riviera.[64] Yet another proposal emerged from residents of a nearby island, Corfu, to make use of part of the dredged sand to replenish the once-famous beaches of Club Mediterraneo that are now eroded. Since, according to greek law, the sand is public property, those residents in Corfu think it better for the sand to be flexibly treated as a free market asset and bought by their municipality.[65] Eventually, the municipal authorities of Lefkada sought authorization from the regional authorities to use the sand for multiple beaches in the western part of the island—including that of Ai Yannis—both because those suffer the most from erosion—meaning in many cases that this is where the accumulated sand comes from—and because they are the most touristically attractive. In all those cases, sand is literally mobile territory, in a way that complicates static understandings of property and legal status. To understand the tensions surrounding the eventual provision of sand, the legal status of the sand as public property owned by the regional authorities don't say much. Once again, the concepts of the geostrategic terrain and its geotechnics stand as more useful lenses to understand the workings of territory. For example, for the resolution of this conflict a crucial factor was the provision of the trucks that would be able to transfer the sand, which were eventually provided by the contractor of the new jetties works at Ammoglossa.

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[63] Civilian Association for the Rescue of Ai Yannis Sand, "Sand provision of northwestern Lefkada beaches," 2014.

[64] Association of Professionals and Environmental Protection of Nikiana. "Sand provision of Ammoglossa Lefkados," 2014.

The third and last instance concerns the decisions taken with regards to the level of human intervention in the landscape both after the earthquake and during the cyclical processes of erosion. For the beach at Egremni, besides the repair of the 350-stepped staircase necessary for the descent to the beach, local officials discuss the possibility of retaining walls or other supporting structures that will stabilize the cliffs, preventing possible future accidents. However, this becomes a contested point; it is for some "a nuisance in the landscape", and an artificial structure "not in harmony with its surroundings". For them, tourists come to see the impressively rough and steep cliffs, not an artificially supported landscape. On the opposite side of the spectrum, with regards to the sand continuously accumulating in Ammoglossa as it erodes from the western shores at Ai Yannis and elsewhere, some believe that the jetties could be manipulated to shape a beach in the shape of a heart: “From Lefkada with love, … Love Lefkada, The Love Beach. Messages and photos [from the beach] will go viral!” suggests one blogger. These two opposite ways of handling environmental interventions represent what could be called an Anthropocene dilemma, that the officials constantly seemed to be negotiating: minimal intervention to allow for nature to heal undisturbed versus bold proactive interventions, even if absurd, to continuously stabilize the landscape into its marketed image.

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[65] Kaloudis, "The sand of Lefkada to be bought for nourishment of the beaches of Corfu," 2014.

[Addendum to chapter 3]

Olivine coastlines in East Lefkada

As I analyzed earlier, the discussions around the beach I read in the proceedings surrounding the 2015 earthquake and the local press reports surrounding the ongoing erosion since the early 2010s all approached the beach as either part of the island's landscape identity or a biogeophysical infrastructure for recreation. But among the communities in the east side of the island, a different view appeared to be emerging and subsequently consolidating: the beach as a climate infrastructure. At the time, this was a largely marginal view of the coastal space in Greece, even if recent publications and design practices have pointed to the necessity of thinking the beach as—at least—a climate adaptation infrastructure.[1] It is then significant that within a few years since the early 2010s an extended landscape and social ecosystem of climate remediation has developed in the east side of the island. This section will describe this development and interpret it as part of the evolution of the stewardship-hospitality complex.

At the time of my second visit in the island there were more than forty beaches employing enhanced weathering as a negative emissions technology and at least two tourist operators specializing in attracting and hosting climate volunteers for the associated labor work, most of them in the East coast of Lefkada. The carbon sequestration technique used is enhanced silicate weathering via the dissolution of a mineral called olivine. As it is now well studied, the chemical weathering of silicate minerals is a dissolution process that produces alkalinity and binds carbon dioxide as bicarbonate in aqueous form.[2] Besides expanding the ocean's capacity to store CO_2, enhanced silicate weathering also has the potential to counteract ocean acidification, which is another significant threat to marine environments from the ongoing climate change. Studies and applications of enhanced weathering have mostly engaged with olivine, a greenish rock that both dissolves faster than other silicate minerals and can be found in relative abundance. In Greece, there are large olivine ores in central-northern Greece, which is where the olivine arriving in Lefkada is sourced from.[3] According to the Hellenic Statistical authorities, the olivine nourishment of the beaches in East Lefkada necessitated approximately $2.5x10^6$ cubic meters of olivine last year, but this amount is only expected to grow as more and more beach operators join the coalition.

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[1] Wakefield, "Making nature into infrastructure," 2020; Vousdoukas et al, "Sandy coastlines under threat of erosion," 2020.

[2] Meysman & Montserrat, "Negative CO_2 emissions via enhanced silicate weathering in coastal environments," 2017.

The process mainly necessitates two types of human labor work: transportation and cleaning/nourishment. Besides mining and grinding, which are taken up by the extracting industries themselves, the olivine silicates have to be transferred to Lefkada, deposited, and kept in optimum distribution in shallow coastal waters. On the one hand, somewhat between 35 and 40 trucks connect the beaches to the mines daily, in a schedule that necessitates more than 100 drivers at any moment. On the other hand, a fluctuating crowd of so-called "groomers" facilitate the last-mile delivery of olivine and the distribution to the beaches, while others make sure that the material is well stretched in the appropriate shallow depths, shoveling and remixing where necessary. The latter two groups consist mainly of volunteers visiting the island from the global North, who are all organized by a major eco-tourism operator that has acquired the rights by the Ministry of the Environment and Climate Change to oversee operations. Crucial is also the presence of the East Lefkada Environmental Observatory (ELEO), that has set up an advisory body comprised mainly of chemical engineers and environmental scientists, and which collaborates with academic institutions across Europe, monitoring and optimizing the process.[4]

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[3] Greece is one of the largest olivine producers in the world, and together with Norway, Spain, Italy, and Turkey they constitute more than half of global olivine extraction. However, the socio-environmental impacts from the recent expansion of open-pit mines that opened to accommodate the increased demand have not been studied. See Kremer et al, "Geological Mapping and Characterization of Possible Primary Input Materials for the Mineral Sequestration of Carbon Dioxide in Europe," 2019.

This climate mitigation ecosystem was one of the earliest to develop in Europe, and many factors seem to have converged for this to happen.

In the mid 2010s, in the events surrounding the "sand dispute" among civilian associations from the western and the eastern part of Lefkada that I described in the previous subsection, the view that prevailed was that of the "Civilian Association for the Rescue of Ai-Yannis Sand": The sand piling at the northernmost stretch of the island—in so-called Ammoglossa—was eventually used specifically for the nourishment of the north and west beaches, where the sand in question originated from, as the proponents of that view had argued. Consequently, the demand of the other community, the "Association of Professionals and Environmental Protection of Nikiana," to nourish with sand the pebbly beaches of the east coasts in order to make them more attractive to tourists, was not met. Apparently, this opened a possibility for different collaborations that the "Association of Professionals" from the east side decided to move forward with.

AKTOR, a construction company that already had active contracts with the Lefkada municipality, seemed to have played a catalytic role. AKTOR was the top bidder for the infrastructural project of the Lefkada canal in 2013, which included building three jetties to intercept the shifting sands of the West side before they reached and obscured the canal. Since the engineers of the corporation were dredging sand and piling it at the nearby beach of "Gyra," the municipality extended the agreement to include the transportation of sand to the beaches of the Northwest that were selected for nourishment. As the municipality had no in-house equipment for the recurring dredging of the sand from the jetties, nor for the transportation to the beaches, this contract continued during the 2010s. At that same time AKTOR was also a contractor for Petrotherm SA, a mining firm in Halkidiki, northern Greece, and its subsidiary carbon capture start-up, Climerocks. Petrotherm is the biggest miner of olivine in Greece, and Climerocks was founded to utilize a small portion of this material for the potential development of negative emission strategies using the method of enhanced weathering. A series of short scale experiments were already ongoing, but the technique had not yet been implemented at large scale in Europe.[5]

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[4] Noteworthy is that, similarly to the case of the Navarino Environmental Observatory, among the two dozens of engineers and scientists active at the time of my visits, there were no officially collaborating social scientists. Rather, besides me, one anthropologist and one legal policy researcher were collecting data and conducting interviews, both working independently of the ELEO.

Given the global pressure on sand and its strategic positioning in Greece, Climerocks conveniently advertised the technology as simultaneously climate beneficial and visitor oriented. This promoting logic had already been tested in the first real-world application of enhanced olivine weathering at the beachfront of North Sea Beach Colony on the Peconic Bay, New York.[6] Similarly to what I showed in previous chapters, here too we see that the stewardship-hospitality complex is born out of and responds to both eco-stress and touristic expansion. And it is this double framing that made the project work for the "Association of Professionals" in East Lefkada. From what their president admitted in our conversation, a collaboration with Climerocks meant not only better beaches for their visitors, but also an ethical practice of environmental protection, which was, as he said, "much better for nature than just repairing the preexisting landscape" by returning the sand to the west where it came from—a direct reference to the rationale of the "opposing" "Association for the Rescue of Ai-Yannis Sand."

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[5] In the US, experiments started in 2020 in "an undisclosed location" in the Caribbean by the Gates Foundation supported start-up *Project Vesta*. See Temple, "How green sand could capture billions of tons of carbon dioxide," 2020.

[6] As the report states in their executive summary: "Under permits issued by the US Army Corps of Engineers, New York State Department of Environmental Conservation, New York State Department of State – Coastal Resources and Southampton Conservation Board, Vesta initiated a field pilot of Coastal Carbon Capture at North Sea Beach in July of 2022." See Vesta, Vesta Annual Monitoring Report, 2023.

Besides this eagerness of the business owners in Lefkada, other factors were also instrumental in the initiation and establishment of this climate mitigation project, such as the fact that Lefkada, although an island, is connected by a highway bridge with mainland Greece, simplifying the potential transfer of large quantities of the material mined elsewhere.

But significant in this process were also the perceptions around what is natural, what is artificial, and what is environmentally beneficial. In the previous subsections I argued that the temporal scale of geologic events, and their embeddedness to the identity of the landscape produced a more complex understanding as to what is "creative," what is "destructive," and what is "natural." In the case of beaches that were becoming "out-of-order" in the west side due to such geologic events (earthquakes of erosion), reparations boiled down to questions of teleological operation, thus navigating and potentially resolving the complex dilemma natural vs artificial. A similar logic was followed in the east side, although the persuasion of the "natural" was this time much stronger.

My interlocutors from the "Association of Professionals" all spoke of enhanced silicate weathering method as a natural process using natural materials. Indeed, Climerocks and similar start-ups around the world present the process in this way, explaining that the materials used are not in any way processed—other than just crushed—while also the chemical processes at play entirely predate human activity. "The only thing that enhanced weathering is doing," explained one of the proponents of the scheme from the "Association," is repositioning natural materials; taking them from here, putting them there." Interestingly, she continued by comparing their choice for a "natural method" to fight climate change to the installation of wind turbines and photovoltaics that is happening in many other islands of Greece. Repositioning sands that suck CO_2, according to her, is in agreement with the identity of Lefkada's landscape.

It is interesting to think of these framings in relation to how enhanced weathering is referred to in scholarly literature. Commentators agree that the "enhanced" part of the term is what makes it an "artificial" method. Indeed, such geochemical processes are found in nature, but the fact that there is a deliberate manipulation of the materials with the aim to accelerate reactions, makes it "unnatural." Still, though, in the literature I reviewed, enhanced weathering is considered qualitatively different that methods such as, say, carbon capture and storage, in that the latter are much more "artificial" and "technologically demanding." In contrast, enhanced weathering, despite its artificial temporality, still remains a highly natural geochemical process. Especially in earlier explorations, many authors referred to it as a potential method for geoengineering if employed at scale.[7] But as the technique was studied better and the approaches became more nuanced, commentators preferred to call it a "carbon dioxide removal technique" or a "negative emissions technology."[8] Geochemists Filip Meysman and Francesc Montserrat, writing in 2017, suggested that enhanced silicate weathering should better be considered "soft geoengineering because it "accelerates the natu- ral long-term fate of fossil CO_2." Adding this disclaimer, they think, may help for the method to gain societal acceptance, making it clear that it enhances a natural process.[9] This view very much anticipated what happened in Lefkada.

More and more hosts with small-medium enterprises close to or associated with the coastline—cafes, restaurants, rooms-to-let, hotels, water-sports, eco-tour operators—choose to join the coalition of the "Association of Professionals and Environmental Protection of Nikiana," to either donate to its proceedings, contribute in lobbying the municipality, or cooperate in the nourishment and monitoring processes.[10] But among my interlocutors, no one used the term “geoengineering” to characterize what is happening in East Lefkada, and no one framed this ongoing project as an active intervention on earth systems. Rather they used phrases such as “climate care,” “carbon mitigation,” and “geo-nursing.” Ria, a service worker at a beachfront near Nydri, phrased it in this way: “It’s difficult to put it succinctly, but what we are doing here is something like ‘atmospheric custodianship’ [she used her fingers to indicate the quotation marks].” All those ways of referring to the enhanced weathering activities suggest that, even if they choose to not use the term geoengineering, the participating members of the community have developed a sense of a large-scale project. This is a form of stewardship different than the nourishment of beaches of Lefkada going on in the northwestern side, where people insisted that the sand belongs to the island and should stay there. Here, the project refers to the atmosphere at large, to carbon concentrations at large, and to climate at large. And curiously, it is posed as a project coupled with hospitality. But this time, not for the hospitality of Lefkada, or the Greek landscape (as was the case with the Blue Flags), but a metonymic hospitality standing for how humanity is hosted in this planet. In this framing, the “Association of Professionals and Environmental Protection of Nikiana” in East Lefkada, having experience from different sorts of hospitality projects, now is showing the way to a large-scale project of planetary hospitality that implicates mobilities that include people, migratory birds, silicates, and carbon among them.

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[7] Köhler et al, "Geoengineering potential of artificially enhanced silicate weathering of olivine," 2010.

[8] Montserrat et al, "Olivine Dissolution in Seawater," 2017.

[9] Meysman & Montserrat, "Negative CO_2 emissions via enhanced silicate weathering in coastal environments," 2017: 5-6.

Given the above, the initial uptake and subsequent upscaling of olivine nurturing in the beaches of East Lefkada is not only another manifestation of the stewardship-hospitality complex, but also a significant evolution of it. The paired narratives of urgency regarding climate action on the one hand, and global coastline erosion and retreat on the other, make this case particularly strong, apparently accelerating its growth and solidifying its narrative.

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[10] The “Association” has seen its members multiplying five and six times over the past two years.

In this story, questions of planning and governance keep coming up. Contrary to what the ethico-philosophical discussions on geoengineering have so far posed as problems of large scale decision making, in this empirical case, decisions were made one at a time and through this complex set of associations that Latour insists in pointing out: Associations beget the power.[11] This was not a centrally planned and government initiated program. Rather it was an evolution of a small-scale pilot project that attracted interest and investment progressively. An accidentally aggregated climate mitigation project that was taking new governmental permissions quicker that it was given governmental directions. A development that furthered fostered the identity of the host as steward, but also started creating new ideas for what "tourism" is all together: Trucker-volunteers from Finland and Denmark now enjoy their mojitos in between their day-shifts, laying on towels left over the green-sand beaches they themselves remake.

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[11] Latour, *Science in Action*, 1987.

Conclusion

The Staying Power of the Stewardship-Hospitality Complex

In June 2022 I visited the island of Therasia, participating in a symposium on landscape studies. Therasia is the mirrored doppelganger of the (in)famous island of Santorini. Formerly part of its body that separated after the Minoan-era volcano eruption, it stands in the west side of the Caldera and is, oddly, as of yet undiscovered by the touristic flows—although only a 20 minute boat ride away. However, "Therasia looks across the volcano and sees its future," one of the local officials said during a local stakeholders roundtable. The future of Therasia's development and unique landscape, especially in contrast to the overexploited one of Santorini, loomed large in most of the discussions during the symposium. Invited in the same roundtable was the founder of a small-scale real-estate development company, mostly active in Australia and the UK. Himself half-greek and in his early forties, he has been for more than a decade consistently returning to a neighboring island, Anafi, for his summer retreats. The island of Anafi has only recently seen real-estate development taking off in its limited land—unsurprisingly, this development consists mainly of high-end vacation houses. An avid camper and nature enthusiast himself, the developer discussed his plan to buy land on the island in order to keep it undeveloped, supposedly saving it from other, less sensitive developers. The plan had already launched, and a collective of young architects had been hired to restore specific vernacular architecture constructions found in this land. The idea is to help preserve the landscape, so that "[his generation's] children can still enjoy it as we did." This logic is reminiscent of the ship-magnate who founded Costa Navarino on an expanse of land gradually bought and consolidated, which I analyzed in chapter 3. Or of many other endeavors, like another advocating for the whole Cyclades complex to become a UNESCO protected site, effectually freezing any development and imposing rules and limits on visitation "in order to protect a landscape unique to the genesis of modern civilization." Regardless of whether they come from the minds of big or small investors, concerned or well-intentioned citizens, all these narratives rest on the notion of stewardship. And stewardship in this cases speaks of a certain fixity, a stillness and consolidation in time: "care" for the landscape is about preservation and sometimes even backtracking to a previous "more virgin" state of the landscape abstractly and aesthetically conceived.[1] And it is about a form of preservation that in all cases refer to or is motivated by the ability for these lands and places to remain *visit-able*—not necessarily livable.[2] This is yet another aspect of the stewardship-hospitality complex.

As a spatial program, tourism and hospitality have an enduring staying power. First, the industry's infrastructures—as all infrastructures do—condition space and shape it in their image.[3] They create networks of economic, programmatic, and temporal dependency: airports, cruise ships, hotels, and water provision for the dry islands, are all extremely space and resource intensive. In direct relation to this, the hosts' lives also become firmly entangled with tourism. In her ethnography of the Yucatán Peninsula in Mexico, Matilde Córdoba Azcárate has described this as the "sticky" nature of tourism: she understands tourism's "orderings of land and of ecological and sociocultural life as sticky because they work as forms of entrapment. They trap, capture, and entangle everyday rhythms, and with them, people's livelihoods and imaginaries." Tourism, she continues, “holds people in place and places in time.”[4] A main reason for this, Córdoba Azcárate argues, is that tourism “makes sense” to people who come to participate in its economies. Even if for a short term, even while acknowledging various problematic aspects with regards to the unsustainable, precarious, and extractive logics of the industry, and even if directly oppressive to aspects of their own lives, people often choose to reach for the opportunities of material gains that tourism has to offer.[5] Beyond the individual level, governments and advocates of tourism present stability, economic growth, infrastructural development, cultural connection, and even hope, as crucial benefits of the industry. While some of these may hold true under circumstances, Córdoba Azcárate aptly points out that those benefits (or narratives of benefits) of tourism have to be seen as characteristic to its sticky attribute.[6] What is important here is that claims of benefits and benevolence become the catalysts for the persistence of a certain reality.

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[1] If this sounds obvious, it shouldn't. There are versions of stewardship that mean cultivating the land, and partaking in the plant, animal, or spiritual life of a place.

[2] As is in the case of the UNESCO proposal for instance.

[3] Katsikis, "Fixing Space through Infrastructure," 2012.

Building on this, I argue that the stewardship-hospitality complex doubles down on this stickiness of tourism. I mean this not only materially, through the sort of “preservation of visitability” ethos and the infrastructural entanglement that I described above, but also in an indirect, strategic way: The pairing of tourism and conservation seems so ideal that it strengthens the staying power of the first, while making the second dependent on it.[7] In the introduction I referred to the positive connotations of stewardship and hospitality. Especially amidst the interrelated imaginaries of ecological collapse and Anthropocenic care, stewardship is presented as yet another of the benefits that tourism can offer, further solidifying both its apparatus and the specific natures that fit the images of tourism—whichever these are: in equilibrium, fit for lagoon eco-tourism, or smooth for the barefoot. In addition, imaginaries of "the host" are mixing with imaginaries of "the environmental steward;" stewardship and hospitality weave into each other strengthening both the moral and infrastructural apparatus of tourism in the global sunbelt.

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[4] Córdoba Azcárate, *Stuck with Tourism*, 2020: 16

[5] Córdoba Azcárate analyzes these as situations of “contradictory moral regimes,” and “sacrificial logics.”

[6] Córdoba Azcárate, *Stuck with Tourism*, 2020: 190

[7] Brightsmith et al, “Ecotourism, conservation biology, and volunteer tourism,” 2008.

In the three cases I studied in this project, I showed how narratives of environmental protection, protocols of environmental care, and actions of environmental repair, all served to consolidate and stabilize a specific type of nature that is geared towards human leisure. Two points need to be emphasized here. First, this fixing of tourism landscapes functions through the imaginary of acquiescence I unpacked in chapter 4. Despite the ceaseless earth processes, the heavy substructures pushing to the opposite direction, and the unrest that global climate change and biodiversity collapse are causing, the infrastructures of the actually-existing stewardship-hospitality complex work intensely to stabilize and restore acquiescence. If the anxieties of the Anthropocene and the requirements of tourism seem to be conflicting—because they are, both practically and ethically—then infrastructures like the Blue Flag and their associated cultural work are bridging and smoothening these contradictions. Second, they do that by remaking territory, less in the sense of its geoeconomic and legal register, and more in its geostrategic and technical. Contemporary political demarcation tools, overly focused on property and economics as they are, seem immature to comprehensively account for the complex making of territory at play through the ordering of the biogeophysical terrain and its technics. More attention needs to be given to the activities of environmental calculation that shape natures and territory in specific ways.

This fixing and stickying power of tourism unavoidably extends to the imagination. The fictions that the tourism industry creates have been explored by various scholars, and I too briefly referred to them in chapter 4. But the received literature has mostly focused on the cognitive feedback loops between tourists and the industry, while it rarely asks what these imaginaries *preclude*. What do the imaginaries of tourism eclipse? Córdoba Azcárate reports that her interlocutors would repeatedly justify their participation in the tourism industry by rhetorically asking: "If not tourism, then what?"[8] In my conversations during the summer I noted a similar difficulty of people to imagine the future outside of tourism. When the topic of the future of Therasia was addressed during the landscape symposium, local officials were clear that they wanted to avoid having "a second Santorini," as this model would be destructive for the island's landscape, but when prompted, they would almost without exception refer to other forms of tourism as the viable alternative: sustainable tourism, niche tourism, slow tourism, quotas for tourists etc. My point is that the infrastructures stewardship-hospitality complex function here too. In the case of Blue Flags, "wild" and remote beaches cannot be accounted for. In Messinia, the mammoth operation of Costa Navarino has rearticulated most of the human and non-human ecosystem—the local economy included—in the image of the tourism that the corporation envisioned. In the island of Lefkada, the idea of a stabilized landscape compatible with tourism overtakes the connections to a creative, shaking ground that some from the host community intuitively make.

For all its evolving power, and returning to the last points I made in my Introduction, the stewardship-hospitality complex as I presented it here, is perhaps easier redirected and "put in reverse" than countered. Which implies a necessity to keep rethinking how stewardship and hospitality can come together in different, and possibly counter-intuitive ways. In all their problematic connotations to superintendence and human exceptionality, it is possible that there can be found radical versions of themselves:

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[8] Córdoba Azcárate, *Stuck with Tourism*, 2020: 19.

an environmental stewardship paired to mobilities, and a hospitality that is not tethered to tourism as we know it.

Appendix

Cybernetic Analysis-Fiction: near-future horizons and the scholarly project

What is going on in the olivine sand experiments in Lefkada? The current section is two things: a disclaimer for the Addendum to Chapter 3 titled "Olivine Coastlines in East Lefkada," as well as a second conclusion by way of an introduction to a supplementary project that will follow the present one in the future.[1] In what follows I open up a new front and set the framework for a first attempt to tackle it—in what is, of course, no more than a rough, preliminary sketch. The question I will be exploring is what the role of academic, scholarly research could be on the problem of sociospatial imagination and future thinking. In a way, this comes as a partial response to the problem of imagination in tourism ecologies as I outlined it in the previous Conclusion chapter, although the project outlined here was in my mind since the beginning of this thesis. Importantly, I approach my question as a problem of method—not content in quality or quantity—and propose what I will call *analysis-fiction* as an additional method of investigation. In other words, closing my thesis document, this section suggests not only that "further research is needed," but also that "a different kind of research is needed as well."

Setting a goal to explore how *analytical* scholarly research can contribute to the project of thinking alternative futures may, at first, sound strange, as the words "analytical" and "futures" do not fit well together. But trying to understand a phenomenon, how certain conditions come together and work together, does not mean only to understand how it has worked so far, but also to understand its tendencies, proclivities, dispositions, and thus its immediate futures. Even if never realized, the "adjacent impossible" is instructive for the pragmatics of a phenomenon.[2] This analytical exercise is simultaneously geared to unveil the array of potentialities embedded within a phenomenon and even potentially to seed some of them if and when scholarly research traverses to the world of policy or other cultural propagation.[3]

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[1] It can also be read as my effort to grasp and wrestle with the work of certain thinkers I began discovering in 2019—I am unsure as to whether I could call it "a school of thought"—that develops as a peculiar amalgam of scholarly work and fiction writing of various forms (science-, theory-, horror-, etc).

The inability to imagine space otherwise, or in other words, the difficulty to think of alternative socio-spatial programs-to-come, is hardly one relevant solely to tourism. My project focused on the operational landscapes of tourism and their conditioning and enframing of the environment in ways that have a fixing effect. But contemporary cultural theory has suggested that this is a problem that extends to other domains as well. When he forwarded his theses on postmodernism in the late 1980s, Frederic Jameson foresaw a failure of the future expressed in a culture of pastiche and nostalgia.[4] Thirty years later, and closer to our current cultural condition, Mark Fisher would argue that this sense is not only still prevalent, but actually appears even more intensified.[5] In the years between the two books, the latter contends, the advancement of neoliberalism and the fall of the Soviet Union, had the political imagination shrinking, creating an enduring cultural sterility. Fisher invokes Franco Berardi's observation of the "slow cancelation of the future," writing about a persistent stasis of imagination that obsesses over and recycles past cultural forms. Although his examples come from music and film, we can easily bring these observations closer to this document's home: the beach. Glancing back at the Eastern Mediterranean, we witness a plethora of social media groups posting and reposting shores of the early eras of tourism, the 1960s and 1970s, populated with bathers and colorful umbrellas. The captions nostalgically recall the virgin, unspoiled environments, and emphasize the non-presence of investors and property owners in a publicly accessible seafront. The beach becomes the Caretaker's haunted ballroom, resampling the spatial programs of the heroic eras of leisurescapes. This is a Fisherian "tourism realism," difficult to escape and difficult to unthink. The genealogy from Jameson to Fisher realizes, quite notoriously by now, that "not only has the future not arrived," but it also "no longer seems possible."[6]

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[2] On a side note, such an analytical exercise is especially relevant for the core theme I have been studying in this project: stewardship, in which a sort of future-thinking is nested. Beyond the immediate present, stewardship connotes to an ongoing care, an attendance that extends after the present. Providence bridges foresight and care. More generally, sustainability falls under a similar logic, as it has a very particular way of relating to the future and its conception, and thus the path I am tracing could prove fruitful for other related fields as well.

[3] Joanna Radin pointed out that the "adjacent impossible" and the analytical exercise I am outlining here are a version of studying what she and others refer to as the "speculative present," which "serves to pry open a powerful realm of world making obscured by adherence to binaries of fact and fiction, scholarly and popular, content and form, inside and outside, or realism and relativism." See Radin, "The Speculative Present," 2019: 301.

[4] Jameson, *Postmodernism*, 1991.

[5] Fisher, *Capitalist Realism*, 2009.

Crucially, in the effort to respond to the realization above, one needs to emphasize that this is a problem of the present, not one of "the future," as the latter doesn't exist other than through its images and representations in the present.[7] The image of the future is one to be crafted in the present, and thus, the problem above can be rephrased as one of the relationship between the world "as experienced"—what we hastily call "reality"—on the one hand, and the speculative fabulation, or fictions that come as a response to the former on the other. Besides doing away with the slippery term "future," repositioning the problem of futures imagination in the "reality-fiction" schema is useful for a couple more reasons: For one, it steps away from the concept of imagination. "Imagination," Donna Haraway argues, "(and its mutant, the imaginary) is not the point: Possibility is." Saying these words almost concurrent to Jameson's *Postmodernism*, Haraway has just passingly reiterated the feeling of entrapment of the future that I discussed above: "We live in peculiar times. On the one hand everything seems possible; on the other, nothing does. The utter freezing of the possibility of social change." She goes on to suggest that SF is helpful in shedding light to previously unexplored possibilities, and in making "unexpected alliances." By SF Haraway refers not so much to mainstream science fiction, as to "speculative fabulation, science fantasy, speculative feminism." These, she contends, are freed from the nineteenth-century conception of imagination that psychoanalytic thought—no matter how relevant it might be in other cases—has been rehearsing. Thus, in Haraway's project, a realm of fiction is foregrounded as an important practice.[8] Most significantly, however, the reality-fiction reframing allows for the investigation of the relationship between the two: Not only to sketch what seems to be a symptom of capitalist realism—and the ensuing entrapment of imagination—but also because, as I will attempt to show, it opens a methodological possibility.

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[6] Fisher, *Ghosts of my Life*, 2014: 21.

[7] See: Candy & Cornet, "Turning Foresight Inside Out," 2019; Fisher, *Flatline Constructs*, 2019.

The relationship in question is this: reality and fiction collapse upon one another. This phenomenon becomes a fixation of thinkers working around cybernetics and media at least since the 1990s, and as such it may sound dated, but I believe that some of the implications of this thesis have remained underexplored, especially with regards to scholarly research.[9]Although one of the main proponents of this thesis is Jean Baudrillard, and many others have articulated similar observations, my analysis here owes much, again, to Mark Fisher, whose PhD thesis is in some ways a sister project to this section.[10] The intertwinement of reality and fiction is a cultural dynamic expressed in literature, but extends much beyond it. To start with, postmodernist literary fiction begins to perceive its capacity for worldmaking; Fisher writes: "Literature passes from a concern with unreliable narrators and partial perspectives, to a thematics that centered upon fiction itself and its ability to construct worlds."[11] Science fiction seems to have spearheaded this transition—itself undergoing a transformation away from its modernist forms—and most importantly its subgenre of cyberpunk fiction. William Gibson's *Neuromancer* has been one of the most celebrated early works in this category precisely for its contribution in the construction of a world within a world, the two being simultaneously separated and interconnected through a recursive relationship. As they approached reality and its workings, these fictions began to also infest it, in what is for Fisher "the most important feedback: between the fictions and the reality that 'surrounds' and ultimately smears into them."[12] *Neuromancer*'s "cyberspace" is an infamous example: it was not only a model of a nested system of worlds, but one pointing to worlds-to-come—and that eventually did come. Maybe less known is that J.G. Ballard's fictional "Why I want to Fuck Ronald Reagan," an excerpt from his 1970 book *Atrocity Exhibition*, was reproduced and disseminated in a 1980s Republican Convention and was accepted as real "for what it resembled: a psychological position paper on the candidate's subliminal appeal, commissioned from some maverick think tank."[13]

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[8] All the quotes are from an interview that Donna Haraway gave to Avery Gordon in 1990. Nonetheless, in this formulation Haraway refers to SF as "language practices," while my reference to fiction will go beyond that. See Gordon, "Possible Worlds," 1994.

[9] One recounts Marshall McLuhan's 1964 "we live in science fiction," as well as work by Norbert Wiener, but the commentary around this phenomenon peaks after the 1980s and the work of Jean Baudrillard. See the two following notes.

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[10] Baudrillard, *Symbolic Exchange and Death*, 1993 [1976]; Baudrillard, *Simulacra and Simulation*, 1994 [1981]; Haraway, *Primate Visions*, 1989; Bogard, *The Simulation of Surveillance*, 1996; Plant, *Zeros + Ones*, 1998; Jameson, *Archaelogies of the Future*, 2005; Negarestani, *Cyclonopedia*, 2008. Mark Fisher's doctoral thesis was submitted in the university of Warwick in 1999 and was titled: *Flatline Constructs: Gothic Materialism and Cybernetic Theory-Fiction*. For many years the document remained only accessible over the internet, before the collective "ex military" reproduce it in print book form after the author's death in 2018. (Page citations will refer to this edition.) Read almost 25 years after it was finished, Fisher's PhD appears much more "open" than his later works; Gothic Materialism doesn't give the sense of a fully articulated concept, and the analysis surrounding theory-fiction (which my work is most interested in) invites updates, if not further elaboration.

[11] Fisher, *Flatline Constructs*, 2018: 148-9.

[12] Fisher, *Flatline Constructs*, 2018: 151.

But Baudrillard and his students insist that such cybernetic culture extended outside the literary world, embracing "theoretical, biological, and social aspects."[14] In the media-cybernetized reality of late capitalism fictions are more than language-based cultural programs. Baudrillard's examples mostly revolved around the media and are by now well worn: Fly-in-the-wall documentaries making us wonder whether they represent "reality"; undecided feedback loops between voters and opinion polls constituting each other; and CNN journalists asking soldiers in Iraq what is the status in the front, only to get the response that the soldiers themselves await to learn this information from CNN's reportage.[15] Beyond the specific realm of media, today we could update these with examples from the workings of financialized capital, climate policy, and generative Artificial Intelligence. Risk projects structure subprime bundles and investment in economic fictions that define not only individual but also national economies. Similarly, IPCC scenaria for this or that temperature rise, project the usage of certain technologies that end up defining the very investment to these technologies that make them real.[16] In their viral blending, these fiction-reality amalgams are what Fisher calls "anorganic propagative patterns," forms of an artificial (in the sense of made-up, not "fake") intelligence. "Fiction is no longer merely representational but has invaded the Real to the point of constituting it."[17]

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[13] Ballard, *Atrocity Exhibition*, 121; also quoted in: Fisher, *Flatline Constructs*, 2018: 152.

[14] Fisher, *Flatline Constructs*, 2018: 150.

[15] Baudrillard, *Symbolic Exchange and Death*, 1993; Baudrillard, *The Gulf War Did Not Take Place*, 1995 [1991]. But because the examples feel too 1980s-1990s, it would be misleading to conclude that they are obsolete. That reality has been infested by fiction through in mediatized environments is an ever-intensified phenomenon: the sense of ubiquitous surveillance that has progressively seeded social imagination (1984, Cold War double-spy games, Truman Show, Big Brother, CIA surveillance a-la-Snowden, smartphone app tracking etc), has made many of us obsessively operating through "encoded messaging," "private browsing," and "IP alternating," continuously crafting and up-keeping multiple cyberspace avatars for ourselves.

[16] Stunning is the example of Carbon Capture and Storage technologies as they permeate IPCC scenaria despite their low rate of adoption. See: Anderson & Peters, "The trouble with negative emissions" 2016; Buck, *After Geoengineering*, 2019.

What follows from the reality-fiction blending is, for Baudrillard, the mutual fusion of social theory and fiction into each other, opening the way for what he elaborates as "theory-fiction." This includes both fiction that performs as social theory, and the inverse, social theory that takes the form of fiction. "At its most radical," writes Fisher, what is at stake here is more than the disguise of theory as fiction, or fiction as theory, but a dissolution of the opposition itself."[18] Fiction, as the artificial that partakes in the Real, escapes from the realm of the imaginary and speaks theory; Social theory, realizing the effect of fictions upon the world, necessarily speaks fiction. The effect is most intensely felt on the side of theory; Fisher explains: "(1) all theory is already fiction; and (2) theory should abandon its assumed position of 'objective neutrality,' and embrace its fictionality."[19] Just a few years after Baudrillard's *Symbolic Exchange and Death*, Foucault said in an interview: "My hope is my books become true after they have been written—not before."[20] And beyond Foucault's critical genealogical reframings, predictive social theories are especially good examples of elaborate fictions. A striking example is William Bogard's "social science-fiction" and his discussion of social profiling: "Rather than the profiles resembling the cases, increasingly the cases start to resemble the profiles."[21]

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[17] Fisher, *Flatline Constructs*, 2018: 25-6. For Fisher these are the "Gothic processes" of immanent materialism specific to Capitalism, but in the examples of climate fiction we see these logics extending beyond the workings of capital—albeit arguably "capitalomorphizing" geophysical exchanges with "parts per million" becoming currency.

[18] Fisher, *Flatline Constructs*, 2018: 156

[19] Fisher, *Flatline Constructs*, 156. Later Fisher invokes one of Baudrillard's claims related to the supposed 'end of the social,' that "the social world does not exist apart from its simulation in social theory." (157) Fisher continues citing Baudrillard: Theory "must become simulation if it speaks about simulation, and deploy the same strategy as its object. … If it no longer aspires to a discourse of truth, theory must assume the form of a world from which truth has withdrawn."

[20] The quote is from an interview that Michel Foucault gave to Millicent Dillon in 1980. See Foucault, "Truth Is in the Future," 1996: 301.

[21] Bogard, *The Simulation of Surveillance*, 1996: 27.

Criminal categories is an obvious example, but closer to today's individualized profiling are maybe examples such as Google's advertisement algorithms.[22] Prediction begets determination.

It is to this typology of theory-as-fiction and fiction-as-theory that I want to suggest an extension of, but let me first add one reflection on "usefulness." What these cybernetics/ media/ STS scholars and theorists along with certain fiction writers described was an emerging social reality—and some of them were inventing it while describing it. Regardless if seen as an inevitability or an educated response, theory-fiction was a form of researching and writing about this novel reality in a way that matched it. That is, in some research communities it became apparent that new forms of reality called for new forms and methods of research and writing. Maybe this was most characteristically the case with the Cybernetic Culture Research Unit, a renegade collective of academics and thinkers in the University of Warwick—where not-coincidentally Fisher submitted his dissertation. Their texts and meetings, experimenting with theory-fiction among others, appeared to many as madness, but as cultural studies scholar Macon Holt writes, "madness that should not be confused with uselessness."

> "Rather than pretending it was possible to 'make sense' of a world in the process of technologically dissolving the boundaries that defined the individual and underpinned the late capitalist culture that persisted after the end of the cold war, … CCRU shifted theory into a fictional register so as to approach a field of research that was both tantalizingly obvious but also beyond the analytical tools of quotidian discourse."[23]

New forms of social reality *justify* (if not necessitate) new forms of writing theory.

Thus, if theory-fiction was the expression of this tendency on the realm of theory, what happens in the realm of analytical research and the empirical evidence—that is, before they theorized? If the Burroughsian cut-ups that constructed reality in the "Gulf-War-that-Did-Not-Take-Place" era of postmodernity were a fictional montage of factual fragments, then we are searching for a complementary type of analysis *of facts* that employs similar cut-ups. New forms of social reality *justify* (if not necessitate) new ways of collecting and associating "facts." Besides, "experienced reality" is just one possible articulation of them. As such it needs to be studied not only in its particularity, but also in its adjacent possibilities that can be revealing of its workings. In the Addendum to Chapter 3, I brought together inconsummate fragments of multiple, adjacent, and interconnected realities, as their collage began to reveal alternate articulations of environmental stewardship with the anthropocenic self-awareness. This method is that I call analysis-fiction, as opposed to theory-fiction, which historian Jonathan Fardy called "a mode of non-analysis."[24] For its focus on the empirical, analysis-fiction comes close and aligns to William Bogard's "social science fiction," but differs from it because Bogard is concerned with how the empirical becomes fictionalized through simulation.[25] Nevertheless, I could paraphrase him here to say that analysis-fiction (like social science fiction) is like a potential "future history: it is not 'true,' nor is it exactly a prediction."[26]

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[22] "Social theories" do not need be academic; The algorithms behind any music app such as Spotify, even if targeting individual subjects, essentially perform as "social theories of taste." These examples were perhaps anticipated by Baudrillard's comments on the logic of "code."

[23] Holt, "The terrifying ambivalence of Theory-Fiction," 2017.

Analysis-fiction attempts to observe and understand the Real by approaching it with its own logics—in addition to, and not outside of, codes of scholarship. It operates on the increasingly porous border between "reality and fiction" but not because elements have been invented, but rather because what's fictive is their associations, extent, scope, temporal existence, pace, geographical specificity. Things have been moved in time and space to be brought in new associations: "The combining of elements which don't necessarily seem to be heard together," in the words of Ballard.[27] In my proof of concept, the potential of a climate technology that is already under testing in one part of the world to be implemented in another is a fact—not a fiction. Studying—hypothesizing—the case in which this potential is taking place, is not to make fiction. Except if we are to call all scenario planning as making fiction. SWOT analysis is both a tool of regional planners and McKinsey consultants.

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[24] Fardy, "Fictionalizing Marx," 2021.

[25] For an analysis see: Fisher, *Flatline Constructs*,

[26] Bogard, *The Simulation of Surveillance*, 1996: 7.

Such extrapolations, I believe, need be part of the analytical project as its one helpful way of studying the proclivities, dispositions, and potential associations of a set of phenomena. Asking, for example, how this peculiar amalgam of corporate hospitality, environmental research, and policy-making functions that I described in chapter 2, is intricately connected with how the executives, the scientists, and the NGO workers imagine the future of the place, influenced by ongoing trends, practices already established elsewhere, and untapped affordances of related technologies. My work in documenting how the Navarino Environmental Observatory collaborates with an educational-research institute to collect genetic samples from the red-listed African chameleon, is arguably unfinished if it does not start to make connections with the discourses on de-extinction currently underway in the field of conservation and evolutionary biology. Not because the scientists in Navarino knew or talked to me about their ideas to reproduce the African chameleon, but because the their DNA collection as a technoscientific practice nests inside it the potential of de-extinction, and at the same time, the discourse is becoming trendy—two factors that only the researcher (and perhaps the McKinsey consultant) will know.

This version of research is, to my knowledge, underexplored as scholarship, and outside the meeting rooms of consulting companies and corporate foresight. A thing missing, it seems to me, is a type of *scholarship* that situates itself in between the first coinage of the concept of "metaverse" in *Snow Crash*, and the awkward video of Mark Zuckerberg announcing *meta* some 40 years later. What did ethnographers studying Silicon Valley see in the programmers' bookshelves and Slack channels? This is not a matter of prediction—even if it rarely and accidentally this too happens. It's a matter of an understanding of how Facebook, social media companies' workers, and Silicon Valley culture works, in micro- and macro-patterns as well as in details. Another example: In the *Ministry for the Future*, Kim Stanley Robinson suggests that large-scale geo-engineering by way of a sulphur particle stratosphere umbrella is launched by a developing nation in the tropics as it sees its citizens dying by the thousands during a catastrophic draught and famine. This potential turns the tables of at least half the ethical arguments against (narrowly-considered) geoengineering. Considering the implications is a matter of ethics and philosophy; but considering the workings of such decisions and table-turnings cannot be left to SF and literary projects. And it cannot be left to the foresight consultants of the McKinseys of the world.

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[27] The quote is from an interview of Ballard given to Jörg Krichbaum & Rein Zondergeld in 1976. See Sellars & O'Hara, *Extreme Metaphors*, 2012.

The last subsection of chapter 3 is developed as a proof of concept for the methodology of analysis-fiction described above.[28] I consider a specific "speculative present" characterized by the introduction of one near-future extrapolation: a small-medium-scale application of enhanced weathering for carbon sequestration in Lefkada island, a technique suitable for coastal environments that is already in pilot projects in the coasts of the Caribbean and New York. Thus, my aim is not so much to suggest the unimaginable (as much of science-fiction does), but to work through the analysis of an adjacent potential while taking under consideration both the preceding analysis I have done in the rest of the chapter (around for example the perceptions of what is natural, artificial, operational, or how repair is approached etc) as well as additional science literature on the technique of enhanced weathering. Moreover, the way I engage with the political in this proof-of-concept is not by imagining a future as I would like it to be, but by exploring a scenario that sits on the fence between conventionally "good" and "bad" narratives of climate interventions and geoengineering applications. Such a positioning may be misunderstood as apolitical, but in contrast, I think that it politicizes imaginations by challenging easy and clear-cut binaries that often circulate in ethical conversations around new technologies. My story is not meant to take sides for or against one technology or its absence, but I believe is political by suggesting the complicities between the operations of three capital- and resource-intensive industries—hospitality, extraction, and carbon capture—that end up silently capturing and expanding on the coastal territory.

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[28] The Annex at the end of this document is a different, preceding version of this experiment. It highlights "fiction" more than "analysis," and as such it can be read as a contrasting mode of storytelling, foregrounding the difference between the two foci.

In other words, in writing this proof-of-concept I have tried to be political in the same way that J. G. Ballard is in his stories. But others have also influenced this project, either by prompting me to imitate or to avoid them. In this last paragraph I want to consider three typologies of similar projects, which constitute crucial references. One, *the instrumental*: Holy Jean Buck, in her *After Geoengineering* uses fictive interludes to describe how life would look like after (mostly western) civilization has employed large-scale carbon capture technologies.[29] Fiction is written quite dully, but I don't consider this to be a weakness: These interludes do not seek too much attention and do not compete the scholarly analytical project that runs in the rest of the book. Similarly, in my "Olivine Coastlines" subsection, I have tried to "just" continue the analysis, without drawing too much attention with elaborate and well-written fictional constructions. Two, *the*

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[29] Buck, *After Geoengineering*, 2019.

clandestine: Benjamin Bratton, in his *Dispute Plan* writes a series of stories such as "The Orchid Mantis of Sanzhi" and the "Role of Megastructure in the Eschatology of John Frum" in which generally factual stories (even if extreme) are sprinkled with fictive details that create twists in otherwise conventional narratives.[30] Similarly, I am looking to a project in which fact and fiction are indistinguishable, because distinguishing them is irrelevant. Rather, the counter-intuitive plot twists that challenge conventional moral economies are the point. Three, *the wishful*: Banu Subramaniam, in her "Avatar" interludes in *Holy Science* offers short speculations that point to alternative interrelations of science and religion away from the problematic hypernationalist instances she traces in the main body of the work.[31] These appeared to me as attempting to foreground the emancipatory potential of such interrelations, sometimes presenting themselves as almost didactic.[32] By contrast, cybernetic analysis-fiction, closer to cybernetic theory-fiction, is not propositional and it does not wish for a specific future. What is political in this project is, I believe, the methodology, not the content: it politicizes the ways of bringing the future about, rather than prescribing it.

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[30] Bratton, *Dispute Plan*, 2015.

[31] Subramaniam, *Holy Science*, 2019.

[32] I want, however, to acknowledge that this critique refers to the content of Subramaniam's stories, while her project is richer than just that: It is also, crucially, a methodological one, in employing the power of Indian myths and storytelling for an experimental humanities.

Annex

Repurposing ecosystems and expertise: Notes on the technical and conceptual feedbacks that led the green turn of the cement industry

Yorgos Efharis

The beach is barely remembered for the associations it once had with sunbeds under colorful umbrellas, tanned bodies in swimsuits, and the smell of watermelon sunscreen. It's now this green, melting, alien space of accelerated human and non-human labor. No more does it swim within the narratives of pleasure and carefreeness, but is rather attached to scripts of higher values, intergenerational justice and geoethics. But in all their bizarreness—almost monstrosity, really—the amalgamations of tourism and cement manufacturing that now run the new coastal fiefdoms still feel familiar. And while some may attribute this to the changing faces of capital—the many heads of its lernaean body—this doesn't explain much; the more widely an analytical tool is deployed, the less useful it actually is. Why do the green sands of today feel like the white sands of the 1970s and the black sands of the 1990s? The patterns I started sketching had to do less with flows of capital and more with those of knowledge, know-how, and technology transfers; something that seemed more like a "conspiracy of expertise".

Researchers and commentators started noticing the proliferation of de-touristification at the beachfront, when most of the then big players in the industry—such as TUI, Marriott, Expedia, booking, airbnb, the China Tourism Group and others—had either been consolidated, merged with or acquired by other corporations, or even were crashing and vanishing altogether. A milestone in this development was the abolition of the Conference of the Parties climate conferences, the so-called COPs, after their 2023 27th iteration in the United Arab Emirates, where climate activists were met at gunpoint, prosecuted, and even killed, because their demonstrations "jeopardized the stability of the regime and the monarchy," as local media reported. The crisis that ensued proved game-changing in that it ended such low-stakes and low-enforcement councils, and helped establish the UN Environment and Climate Corps (UNECC) which had enforcing power. The huge sanctions it started imposing in high-emitting industries rendered tourism as one of the most unnecessary nuisances for the climate condition. Mobility for business, migration, education and health purposes made sense, but moving around the planet to lay idle under the sun or trek some random far-away mountain was considered imprudent and unadvised. In the context of the Eastern Mediterranean, where my research at the time was focused, and where the tourism and hospitality industry was the single largest contributor to national GDPs, this crash was especially painful. As the tourism players struggled to reorient and survive, they found an unlikely ally. The cement industries, also big in countries such as Greece and also fiercely attacked by the public opinion and climate councils as the highest emitters in the construction industry, started teeming up with the coastal enclaves and delivering depopulated green beaches, structuring climate volunteering programs, and profiting from carbon offset schemes.

But if this was the landscape in late 2020s, the actual transformation was already a decade underway, while the ideas were apparently hatching even earlier. As a researcher for the UNECC myself, I had clearance to dig into the archives of the Holcim-Cook corporation in the context of the massive "Twentieth century climate accountability" program. Although the climate accountability research looked at cement production, Holcim-Cook was also known for the Green Grain Pact program it ran, which is now considered one of the largest actually-existing geoengineering schemes to have been completed, and a milestone in commercial coastal geoengineering. Although the people at the company were not particularly happy to have me there routing around their past, their archivist, Mrs Emma Meier, was a lovely person with whom we had very constructive conversations. It was she who directed me to some newspaper clippings from the early 2020s, related to a former subsidiary of Holcim-Cook, named "AGET Iraklis" (ΑΓΕΤ Ηρακλής — greek for Hercules), which was a greek, yet globally active, cement company acquired by the then Lafarge-Holcim in 2016. A lengthy interview with the CEO of the company, Dimitris Hanis, on May 23rd, 2021, implicitly suggests that R&D on geoengineering-like activities was already underway in the late 2010s[1]. The interview takes place in the context of the then widely discussed Green (New) Deals, which according to the title of the article, mark a "shift in the cement industry." Toward the end of the article, when the interviewer brings up climate change and CO_2 emissions, Mr. Hanis mostly refers to the alternative energy sources for the production process, which is expectable, but also fleetingly refers to "radical shifts in the market that go far beyond new materials and the construction landscape" without further specifying what this may mean.

The consolidation of the green face of the company, it seems, was only a minor development, distracting attention from its core, parallel transformation. Indeed, in less than a month after this interview, Iraklis established a directorate for sustainable development and became the first greek company to earn environmental declaration certifications.[2] But at the same time, moving discreetly through subsidiaries, Iraklis was purchasing large pieces of coastal property. The tourism industry was particularly strained after the Covid-19 pandemic and there was much land up for grabs. When commentators started noticing, this move first appeared as a reorientation of an industry "too big to fail" towards a safe environment for investments. But, admittedly, it did seem a strange thing to do. It seemed even more strange when the Swiss parent company Holcim, after a rampage of acquisitions, merged with what was left of the failing Thomas Cook to form the Holcim-Cook Ltd. By the end of the 2020s, what was formerly the greek cement industry, now entirely ran by Holcim-Cook, was the single largest owner of coastal land in the Eastern Mediterranean, including properties in Greece, Turkey, Cyprus, Israel, and Egypt.

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[1] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F5/23/P.

[2] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F5/24/D.

What was Holcim-Cook doing exactly? The only publicly available clue was a rather brief article published just after the summer of 2023 under the title "Creating the green Iraklis of the coming decade," in which the reader learns that the company experiments with a carbon sequestration project in the island of Crete.[3] Remarkably, the picture accompanying the article is more telling than the article itself, but only makes sense to the trained eye. I also woudln't know more if it wasn't for this detailed 2022 report, now in the Green Grain Pact archives, which described the progress of this experiment, characteristically titled "Project Erechtheion."[4] Well protected from the curious eyes of the public, the project was located in the premises of an Integrated Touristic Resort enclave (so-called "ΠΟΤΑ") in northeastern Crete, which had remained unfinished after the 2008 eurocrisis. The sand in its numerous bays had been mixed with olivine, a greenish mineral, in order to sink and store carbon dioxide from the air. This is a technique based on natural chemical reactions and the long-term carbonate-silicate cycle, in which the natural weathering of the mineral is enhanced by pre-processing and accelerated by the waving energy of the ocean, sucking carbon out of the air as it weathers and transforms to another chemical composition. It has the potential to offset 125% the applied mineral's weight in CO_2, and as the Dutch "Olivine Foundation" states, "There is enough of it to remove the excess […] greenhouse gas: on or just under the earth's surface there is a thousand times more than required."[5] Although now largely accepted, such methods were a taboo in early 2020s, as there was no scientific committee to control and provide permissions and guidance for these otherwise planetary-significant modifications.

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[3] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F5/31/P.

[4] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F2/3/PD.

The story has now started taking shape, but it is still unclear how exactly did Iraklis decide to start geoengineering experiments. To be sure, the company was realizing how their venture was unsustainable in a carbon neutral world, but what/who brought them to this specific technique and why it happened when it happened? My "climate accountability" research—but mostly my curiosity—accidentally led me to encounter two more names, instrumental for the narrative.

Looking through the yet unsorted materials of the Holcim-Cook archive, in the Iraklis employees subcollection, it was with surprise that I found a couple of travel postcards. This was a strange finding. When I asked Mrs Meier about them, she told me they were found in the corporate folders of their previous coastal engineer, the late Dr. Doxiades. It is the same man who was the primary investigator in the Project Erechtheion. She remarked that Dr. Doxiades was a passionate man, always at work, and even when sending postcards to friends it appeared to be for work-related issues. The first copy, written in Greek, was addressed to Dr Doxiades by someone signing off as "G": "Isn't this the beach you always referred to? There are many more similar postcards […] in this shop…" and the address of the shop follows.[6] The second copy, was sent out by Dr. Doxiades but apparently never made it to its recipient. It is addressed to someone named Tad, but probably Tad had changed address and the postcards were returned. Dr. Doxiades kindly thanks Tad for his "very helpful insights", and acknowledges his contribution in the "great progress that the project is making". He also remarks a project that had "changed how we think about sand and the coastline."[7] Crucially, the cover images of two postcards depicted the same place from different angles: the famous black sands beach of Astir hotel peninsula in the Athenian Riviera. For the public it was famous because it was the first instance of a black beach, where sand had an uncannily smooth feeling, and did not stick to one's feet. For the coastal engineering and history of science community it is famous because it was the first successful effort to apply Zelten oils, a hydrocarbon product, to stabilize the beach and prevent it from erosion. Sand grains were aggregating due to the high viscosity of the Zelten oils, and were forming into this novel composition that was put to work for the beach. The technology, was first patented by Esso Corporation in 1966, but never caught on as a patent and for its original agriculture-related purpose. Later, however, after the experiments near Athens, it was applied very widely, either for its stabilizing capabilities or just for its aesthetic appeal.

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[5] See their website, smartstones.nl.

[6] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F9/6/P.

As I later figured, Dr. Doxiades was then a young professional who had just finished his PhD in landscape engineering in the school of Architecture and Planning in Athens and was working for one of the chief architects in the Astir hotel riviera project, Prof. Decavallas. But who was Tad? Mrs Meier pointed out that most of Dr. Doxiades's non-Holcim documents were held in another collection, in Athens, Greece, and this is where I had to go. Dr. Doxiades was a prolific professional which meant that I needed to look through numerous projects, reports, letters, and notes—many of which unpaired or unsorted—before I found something. The name Tad did not appear anywhere, but when I searched for Prof. Decavalla something came up: A letter in which Dr. Doxiades was neither the sender nor the recipient.[8] Tad, better known as Tadeusz Les, was the sender, addressing a letter to the chief architects of the Astir project, describing a patent and its context. Tad was then an employee for the Esso corporation, and the inventor of the sand stabilization patent that was used, it seems, in the black beaches. It also appears that he had later been unofficially summoned to offer his technical insights for the Project Erechtheion in exchange for some warm days in the resort, where he met and befriended dr D. The letter was clearly a photocopied document: Dr. Doxiades must have wanted to keep the patent drawings and description. On it, we read Dr D's enthusiasm for the horizons that the patent opens up: "altering not just the appearance, but also the mechanics of landscapes."[9] Thoughts for speculative scaling up of such interventions must have remained on his head from then on, because we find another note on the same document, written after 2017: the phrase "green quarries??", a phone number, and the citation to a scientific paper. The paper was titled: "Olivine Dissolution in Seawater: Implications for CO_2 Sequestration through Enhanced Weathering in Coastal Environments."[10] And the phone rang in Iraklis CEO's office.

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[7] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F9/7/P.

[8] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F9/12/P.

Indeed, the story came full circle at this point. When I took a photocopy of the photocopy and e-mailed it back to Mrs Meier in Switzerland, she replied with a scanned document of Dr. Doxiades' hiring contract, dated in early 2018. There are definitely more to be said on the green turn of the cement industry, Dr D's friends and network which must have played a role in persuading Iraklis, etc, but it crucially shed light to another history thus far unknown.

When Esso, now known as Exxon Mobil, closed down its research center in Oxfordshire amidst corporate shrinking, Tadeusz Les and his team joined Climeworks, a carbon capture and storage start-up in Switzerland. This became a wider trend in flows of expertise. Researchers in petrochemicals realized they were ideally placed to transition to emissions mitigation, maybe also because they regretted having worked in unearthing fossil fuels in the first place. Holcim-Cook itself hired hundreds of chemical engineers and synthetic biologists after 2018, as it was specializing in olivine weathering. The habit of extractiveness, one would say, rebounded and moved next door. To be sure, petrochemical companies did not just disappear: they all developed their carbon mitigation spin offs—which remarkably grew to subsume them. Eventually, the Holcim-Cook merge, the collaboration with Dr. Doxiades and the latter's ties to Tadeusz Les, narrate an instance of what appeared to be a long story of industrial restructuring amidst the climate change crisis. But it also uncovers transfers of knowledge, repurposing of patents, and feedbacks among professionals: a "conspiracy of expertise." This other telluric creature cumulatively folding within human brains, adapting to paradigm shifts, slipping through the cracks of geopolitics, and making the world in its image through peculiar associations, chanceful encounters, photocopied letters, and carte-postales.

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[9] Holcim-Cook archives; Green Grain Pact Papers and Records (MS 1947): F9/13/P.

[10] Montserrat, F., Renforth, P., Jens Hartman, J., Martine Leermakers, M., Pol Knops, P., and Meysman, F. (2017). "Olivine Dissolution in Seawater: Implications for CO_2 Sequestration through Enhanced Weathering in Coastal Environments." *Environmental Science and Technology* 51: 3960-72. DOI: 10.1021/acs.est.6b05942.

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Acknowledgements

This project started in the winter of 2020, when I began to think of potential topics for a research proposal worthy of applying to the MED program. I was just coming out of two shorter research projects on the inadvertent and cumulative remaking of the biogeophysical environment in the cases of 20th century Russian earth sciences and the more contemporary discussion on Natural Climate Solutions—both no less terraforming and geoengineering practices if conceived in proper breadth. But I was also searching for something relevant to the Greek / Mediterranean case; something that I could continue in the context of a Phd; and something that I could claim some sort of "expertise" later on. Tourism and the infrastructures of the summer appeared all the more relevant: Not only because the hospitality industry lubricates the entire Greek national economy, and not only because the logics of tourism have been deeply ingrained in postwar greek culture, but also because this lucrative machine has aggregately operated as just another form of these accidental terraforming projects of modernity: coastlines remade, landscapes marked, temporalities reordered.

Coming from an island myself, I grew up and spent many of my summers within the very mechanisms I am unpacking here. In the big picture, I retain an "insider's positionality," yet I embarked on this project to better understand these mechanisms for myself. In part, this explains the eclectic suite of case studies selected here, and others that didn't make it in this document. My goal throughout has been to acquire an overview of the field, thus imposing a structural limitation to my work: I am going wide more than I am going deep—in the hopes, however, that I will have the chance to continue this work in the near future.

A preference of breadth over depth also characterizes my methods. The present document may be read as an investigation of the tourism industry's stewardship practices and narratives in the Eastern Mediterranean. But this is only partially true. A very big part of it has been an exploration in methodologies, types of literatures, and typologies of writing. In the span of the past two years I have attempted to approach my subject matter through human geography, anthropology, sociology, cultural studies, and science-technology studies. I tried to analyze my materials through archival work, media analysis, discourse analysis, participatory observation, and interviews. This was not so much in an effort towards "multi-discplinarity" and "cross-methodologies" that are supposedly all the more valued in academia, but simply because I was curious to understand their domains. I wouldn't say I have developed particular competency in any of fields or methods, but I do have acquired a much better idea of where my interests lie.

The variety in content and methods reflects the course of my study at Yale—simultaneously an advantage and a shortcoming. Some friends joked that I somehow managed to select all the classes with "boring names." I don't know if this is true—and what it is a symptom of—but despite the descriptive names that most of them had, they all provided a great space for discussion, thinking, and testing of ideas. Much of the text in this document was initially written in the context of graduate seminars, and then rewritten or adapted accordingly. Small bits of the Introduction were initially written for the Fall 2022 seminar "Qualitative Research Methods in the Social Sciences" taught by Amity Doolittle in the School of Environment. Sections of the Interlude following the Introduction were initially written for the Fall 2022 seminar "Problems in the History of Science," taught by Deborah Coen in the History of Science. Chapter 1 is reassembled from material written for a paper in the context of the Spring 2022 seminar "Cultural Sociology" taught by Jeffrey Alexander in the department of Sociology. Parts of Chapter 2 were written for the Spring 2022 seminar "Histories and Ethnographies of the Corporation," taught by Douglas Rogers in the Department of Anthropology. Chapter 3 is reworked material from a paper for the Fall 2021 seminar "Power, Knowledge, and the Environment: Social Science Theory and Method" taught by Michael Dove in the School of Environment. The speculative part of this project, what I now call analysis-fiction (but will most probably keep transforming), saw its early development in the seminar "Out of Date: Expired Patents and Unrealized Histories," taught by Anthony Acciavatti in the School of Architecture and can partly be found in the Annex. The difficulty to imagine the future in places of tourism, something discussed in the Conclusion, will be elaborated after the end of the program in the context of a Grant in Environmental Humanities I was lucky enough to be selected for in collaboration with the small Athens-based publishing initiative kyklàda.press. The seminars in Environmental Humanities over Spring and Fall 2022, coordinated by Paul Sabin, Siobhan Angus, and Hannah Cole, have been very enriching in thinking about my research. Lastly, in Spring 2023 I attended the seminar "Problems in Science Studies," taught by Joanna Radin. Literature references and writing developed for class assignments have found their way into the Introduction, Chapter 2, the Conclusion, and the Appendix. But the choice of this class as my last one at Yale reflects how my interests have evolved and compounded around the type of scholarship that falls under STS. It is in this scholarship and these texts that, I think, I feel more at home at the moment.

The materials and chapters above, beyond the classes, were also reworked and edited in the context of submissions to conferences, symposia, and edited volumes. A reworked version of Chapter 1 will be published in the upcoming "Sea Change: Representations of Transformation in the Caribbean and Mediterranean," edited by Jessica

Boll, Marilén Loyola, and Sharon Meilahn Bartlett. Another version of Chapter 1 found its way in the 2023 book "The Beach Machine," co-edited by David Bergé, Phevos Kallitsis, and myself, and published by kyklàda.press. An earlier and much shorter version of Chapter 2 was presented in the conference of the greek geography journal GEOGRAPHIES, in November 2022. Earlier versions of Chapter 3 were presented in the Graduate Environmental Humanities symposium at Yale in December 2021, in the Symposium "Under the Landscape" in Santorini and Therasia in June 2022, and will come out as a chapter in a book currently in preparation by the conveners of the symposium.

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