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# COMPLEX GOVERNANCE AND SEAZONES: THE FLOATING ISLAND PROJECT IN FRENCH POLYNESIA

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2020



*Ph.D. Thesis by Nathalie Mezza-Garcia*

A thesis **submitted in partial fulfillment** of the  
**requirements** for the degree of. Doctor of Philosophy  
at the University of Warwick

Complex Governance and SeaZones:  
The Floating Island Project

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A thesis submitted in partial fulfilment for the requirements  
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Studies

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*Esta tesis está dedicada a mi mamá y a mi papá. Por toda una vida de apoyo incondicional.*

*This thesis is dedicated to my mum and dad, for a lifetime of love and unconditional support.*

*I think the next century will be the century of complexity*

*Stephen W. Hawking*

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## **Declaration of Used Work**

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree. The work presented here, including the data generated and data the analysis were carried out by the author.

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## **Abstract**

Over the past two decades, there has been a growing body of work in the field of complex governance, which assumes that socio-political systems are nested, self-organised, emergent and non-linear. However, there has been a void in the complex governance field for looking at alternative forms of governance to nation-states, political parties, representative democracy and policy, such as Special Economic Zones, seasteads and their synthesised form, SeaZones. This thesis addresses this gap in the scholarship by taking a complex systems perspective to examine the creation, regulatory framework, governance, stakeholders and demise of a particular case study, namely the Floating Island Project in French Polynesia. Using participatory observation and document analysis, the thesis explores the attempt to take what was the world's first SeaZone from design to implementation. The thesis identifies various legal, institutional, political, social, cultural, economic, historic and environmental issues relating to the Floating Island that are encountered when trying to set up an alternative form of governance and a floating island. It argues that the Floating Island Project exhibited three key features of complex governance: first, it was structured as a nested system; Second, it concerned stakeholders in multiple levels, including local and global; Third, it was pervaded by waves of cross-temporal and cross-spatial events. In doing so, this study contributes to and extends the scholarship on complex governance in general and floating Special Economic Zones, SeaZones, specifically, by examining, from a complex systems perspective, the possibilities, limitations, and challenges of setting up special jurisdictions with emerging and alternative and forms of governance with legal, spatial and digital extraterritoriality.

# PART I. SITUATING THE THESIS

# CHAPTER 1. INTRODUCTION

## ***1.1. Introduction***

This thesis explores the governance, creation and demise of a maritime special jurisdiction entitled Floating Island Project in French Polynesia. The Project emerged with the signature of a Memorandum of Understanding (MOU) between the French Polynesian government and the non-profit Seasteading Institute, in January 2017. However, the private company Blue Frontiers led the Project. In setting up the Floating Island Project, Blue Frontiers aimed to create an alternative form of governance called a SeaZone. The SeaZone would be a floating Special Economic Zone. Spatially and politically, it was inspired by autonomous human communities on the ocean – seasteads. Seasteads are a form of governance that does not exist yet, but that has recurred in the media as a sometimes controversial alternative form of governance to nation-states. Special Economic Zones are small areas within nation-states that have different regulations from the rest of the country. They have led to drastic economic and social transformations in many places around the world in the last forty years. The Floating Island would combine these two forms of governance, seasteads and special zones, in a SeaZone on a floating island and area in the shallow waters of a Tahitian lagoon, a part of the ocean enclosed by a coral reef.

The Floating Island Project stated that it had two purposes: decentralising governance and mitigating the effects of sea-level rise. It attempted this by placing an artificial floating island on the sea with a special regulatory framework approved by French Polynesia (the SeaZone), and by governing it through a cryptographic token named Varyon.

Because of the legal and physical enclosing of the Floating Island and the floating Special Economic Zone, SeaZone, within French Polynesia's institutions and ocean, it is important to clarify that the Project would be 'nested' within French Polynesia, despite the governance autonomy it sought. To move forward from design to implementation, it needed French Polynesia's official backing through an Act of the Assembly. The Seasteading Institute and Blue Frontiers submitted feasibility studies to the government for the Assembly's approval, as it is common when private actors propose projects to governments. Blue Frontiers complemented this strategy with an international marketing campaign to attract residents and funding. However, the Project did not go through.

While the government did not move forward with the project, I was able to conduct research on the Floating Island using participatory observation and documentary analysis since the MOU signature to its demise. To conceptually understand my findings and to approach this case study, I used a complex governance framework. At the beginning, I chose a complex governance framework because I was familiar with the complex systems literature and I saw a void to explore forms of governance that were alternative to the nation-state, such as heterarchies, polycentric systems and anarchism. This case study seemed one of such cases. However, as I deepened into the case study, I slowly realized how much of traditional nation-state governance (political parties, elections, political representatives) permeated the project. As the research advanced, more and more it became clear how certain features of complex systems that complex governance authors discussed were very useful for explaining key events of the Floating Island, namely, its governance, creation and demise.



This thesis' main contribution to knowledge is to identify various legal, institutional, political, social, cultural economic, historic and environmental issues relating to the Floating Island that are encountered when trying to set up an alternative form of governance and a floating island. Secondly, and specifically to the field of complex governance, this thesis brings together the complex governance field and particular features of complex systems (nestedness, waves, multiple levels of stakeholders) specifically in relation to SeaZones. Thirdly, this thesis contributed to the emerging field of special jurisdictions and SeaZones by investigating, from a complex systems perspective, their governance, stakeholders, and even problems that arise in their planning. This had not been done before.

Overall, the thesis contributes to the interdisciplinary area of research on complex governance within the discipline of political science. That is to say, it takes a complex systems perspective to examine the regulatory framework, governance, stakeholders and events of a particular case study, namely the Floating Island Project in French Polynesia. In doing so, the thesis extends the scholarship on governing complex socio-political systems, in general, and on special jurisdictions, such as SeaZones, in particular. It extends the complex governance field by putting key notions of the field in relation to a form of governance that the field's literature has never explored before. It extends the special jurisdictions, and, in particular, SeaZones field by providing complexity-related issues that are present in the formation of these types of projects. To the best of my knowledge, this is the first time that complexity and a complex governance angle have been used to study SeaZones. This is also the first doctoral thesis entirely focused on the Floating Island Project.

Now, to conceptually explain these issues from a complex governance framework, I used three features of complex governance systems described by the literature. These are: the existence of nested institutions, multiple stakeholders and waves of cross-temporal events. With the Floating Island Project in French Polynesia as the case study, this thesis addresses the following research questions: In what ways might a complex systems perspective contribute to understanding the governance, creation and demise of the Floating Island Project in French Polynesia? More specifically, how might we re-read the governance, creation and ultimate demise of the Floating Island Project through the lenses of nestedness, multiple levels, waves? And from a complex systems perspective, what are the possibilities, limitations, and challenges of setting up special jurisdictions, with emerging and alternative forms of governance, such as SeaZones, nested within nation-states? This thesis argues that the Floating Island Project exhibited three key features of complex governance: first, it was structured as a nested system; Second, it concerned stakeholders in multiple levels, including local and global; Third, it was pervaded by waves of cross-temporal and cross-spatial events.

In this introductory chapter, there are four additional sections. Section 1.2. states the research goal, questions and objectives. Section 1.3. sets up the conceptual problem that drives this thesis. Section 1.4. provides the scope and limitations of the research and Section 1.5. outlines the rest of the thesis.

### ***1.2. Research Goal, Objectives and Questions***

The goal of this thesis is to understand the governance, creation and demise of the Floating Island Project in French Polynesia using complexity theory. For the concept of governance, I use Jessop's (1997:1) definition: "the complex art of steering multiple agencies, institutions, and systems that are both operationally

autonomous from one another and structurally coupled through various forms of reciprocal interdependence". Jessop's definition of governance suitably fits the type of system studied in this thesis because it focuses on the interactions of agencies, systems and institutions, and takes into consideration the local as well as on the global. This perspective is very useful for the Floating Island and its extraterritoriality. The Project would be inside, but outside French Polynesia's regulations, and inside but outside its land territory. Thus, the different notions within Jessop's definition (agencies, institutions and interdependent systems) are useful for analysing governance of the Floating Island Project for they allow looking the intertwined nature of the project's multiple stakeholders, institutions/regulations and interconnected events. These three key concepts of Jessop (agencies, institutions and systems) unfold in the three complex governance concepts of the empirical chapters. Namely: the notion of agencies is reflected into stakeholders in chapter 6. Systems and reciprocal interdependence plays out as the waves of chapter 7. And Institutions appears under institutions and regulations in chapter 5. To get a better sense of how the 'parts' of Jessop's definition unfolded in the Project, I explore these issues in the context to the Project's specific form of governance, a SeaZone, and how it relates to its creation and end. Having said that, these were the thesis' main research questions:

- In what ways might a complex systems perspective contribute to understanding the governance, creation and demise of the Floating Island Project in French Polynesia?
- More specifically, how might we re-read the governance, creation and ultimate demise of the Floating Island Project through the lenses of nestedness, multiple levels and waves?

- From a complex systems perspective, what are the possibilities, limitations, and challenges of setting up special jurisdictions, with emerging and alternative forms of governance, such as SeaZones, nested within nation-states?

Additional questions include:

- In what ways might complex systems theory be used as lenses to understanding special jurisdictions, with legal, digital and spatial extraterritorialities nested in nation-states?
- How do notions relating to complex governance unfold in the regulatory framework, governance, stakeholders and events of a particular case study, namely the Floating Island Project in French Polynesia?

Answering these questions contributes to comprehending key issues that appear in the creation and demise of a form of governance, and Project, that has received significant media attention, despite not going through. Additionally, these questions improve existing knowledge about a type of governance that has not been explored yet in the literature of complex governance. Moreover, the complexity perspective on the Floating Island Project provides a new angle about the case study and SeaZones. In this way, this research helps expand the complex governance field by showing how features of complex governance are useful for understanding the governance, creation and demise of this attempt to set up an alternative form of governance.

The overall objectives of the thesis are to:

- Show how features of complex governance, such as nestedness, multiple levels and waves, shaped the governance, creation and demise of the Floating Island Project.
- Understand, through the use of complex governance, aspects of the Floating Island Project in French Polynesia, such as its regulatory framework, stakeholders and the Project's demise.
- Examine, from a complex systems perspective, the possibilities, limitations and challenges of creating special jurisdictions with emerging/alternative forms of governance, nested within nation-states.
- Identify how complexity can help understand new, emerging, alternative forms of governance.
- Explore features of complex governance in the creation of alternative and emerging forms of governance with particular extraterritorialities.

### ***1.3. Problem: Understanding the Floating Island Project Using Complex Systems Theory***

Because the goal of the thesis is to use complexity theory to understand the Floating Island's attempt to go from design to implementation, that is, its governance creation and demise, the problem I address is how do features of complex governance, such as nestedness, multiple levels and waves can be used to study the governance, creation and demise of the Floating Island Project. This means that the thesis explores how a complex systems perspective might contribute to understanding special jurisdictions, such as SeaZones, with legal,

spatial and digital extraterritorialities nested within nation-states.<sup>1</sup> Complex systems are, therefore, key to this thesis.

For decades, scientists have recognised that there are certain features that make up some systems which nowadays are referred to as 'complex'. The following are some of their characteristics. One common way to refer to complex systems is systems composed of many elements interacting in multiple ways. Complex systems are systems whose behaviours are self-organised (Camazine et al., 2003; Haken, 2006). Self-organisation refers to the capacity to generate order and patterns from within, based on local interactions, without external imposition. Holland (1995) and Nicolis and Nicolis (2012) explain that the structures of these systems emerge from these self-organised interactions. Given that the behaviours of complex systems are self-organised, and their structures are emergent, their dynamics are said to be adaptive (Holland, 1995). Interactions within complex systems can be both, bottom-up and top-down. Complex systems' topologies vary and tend to be networked (Solé, 2009). Their future is also difficult to predict and, at times, unpredictable (Gershenson and Heylighen, 2005; Taleb, 2010). Yet, their actions are history-dependent (Walby, 2003). That is to say, their nature and evolution are time-coupled (Prigogine, 1977), and so is the relation of these systems with their environments.

Because complex systems are open systems, they constantly exchange information, matter and energy with their environment. Prigogine (1980) explains that complex systems' relations with their environments are open to a point where boundaries are often only functional. Indeed, as Urry (2004) conveys, because

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<sup>1</sup> Extraterritoriality is a term used to describe places holding a special regulatory status - before or after diplomatic negotiations (Integrity Legal, 2009).

complex systems' boundaries and their environments are blurred, understanding this type of systems needs to be done in reference to their environments (this is a reason why in this thesis I discuss the Polynesian historical and sociopolitical context when studying governance in the Floating Island). The Project existed within a particular setting of the environment where it sat. Additionally, as Simon (1962) states, the organisation and structures of these systems are nested. Nestedness means that complex systems are formed by systems within systems within systems. While there are multiple ways to explain what makes a nested system, one of the most common ways to distinguish them, and the one used in this thesis, is if "upper" levels constrain "lower" ones in a structure. All these features make complex systems nonlinear, a term that refers to a lack of a proportional relation between inputs and outputs.

Scientists working with complex systems recognise complexity as an ontological feature of complex systems. "Complexity is complex", Cilliers (1998:9) writes. From microscopic systems to macroscopic ones, the complexity literature has grown significantly since theories about complex systems began to be formalised around particular topics, problems and schools. Subjects in the literature of complex systems are diverse, and often include ant colonies (Gordon, 2010), fungi networks (Babikova et al., 2013), large infrastructure projects (Gerrits and Verweij, 2018), cities (Sassen, 2013; Batty, 2018), human societies (Bar-Yam, 1997), the internet (Barabasi, 2014; Solé, 2009), biological organisms (Solé and Goodwin, 2000), and other living systems and life-like systems (Bedau, 2007; Lordache, 2012b), in particular. Besides being understood as a feature of certain systems, an ontology, complexity is also seen as an established set of theories (Maldonado and Gómez-Cruz, 2011). The formalisation of complexity led several authors to describe it as a

set of sciences which display every element of a present-day scientific revolution, from a Kuhnian perspective (Maldonado, 2009a).

The formalisation of today's outlaws from normal science, these 'anomalies' began in the seventies when complex systems, features and fields became the focus of a small subset of scientists (Mitchel, 2011). Their studies included theories involving chaos, turbulence, non-equilibrium thermodynamics, fractals, catastrophe, networks and non-classical logics (Maldonado and Gomez-Cruz, 2011). The study of these theories brought out the recognition of the limitations of classical science models to understand, govern and control systems which exhibited features of complex systems (Bar-Yam, 2009). One way to understand classical science is as science inspired by Newtonian physics.

Several authors have argued that Newtonian physics inspired mainstream science before knowledge about complex systems theory developed as a field (see: Prigogine and Stengers, 1997, 1984; Heylighen et al., 2006; Mainzier, 2007). As such, science before complexity focused on properties such as predictability, linearity and causation. As Gershenson and Heylighen (2005:48) argue, classical science was interested in reductionism, determinism, dualism, correspondence and rationality. In the social sciences, especially in its early days, the inspiration of Newtonian-physics was often translated into a quest for stability, organisation, hierarchies, top-down control and centralised systems, among others. However, after complexity, scientists have realised the potential of theories about complex systems to explain systems, behaviours and phenomena that seem to behave in non-predictable ways, and which exhibit features of complexity (Geyer and Rihani, 2010).



Many disciplines and domains have created new fields and subfields which involve the epistemological discoveries of complexity and properties of complex systems. For instance, biology and ecology have developed several theories around evolution, adaptation and self-organisation (Schneider and Kay, 1994; Emmeche, 1997; Solé and Goodwin, 2000). Chemistry and physics have branched to an entirely new understanding of irreversible processes, time, chemical reactions and dynamic systems with works on non-equilibrium thermodynamics (Prigogine and Nicolis, 1977; Prigogine, 1978; Prigogine and Stengers, 1997). Engineering has begun extrapolating properties of biological systems to what is now called complex engineered systems (Braha et al., 2006). This has generated developments on self-organised mechanical systems, such as swarm robotics (Hamann, 2018). Likewise, computer science has given birth to the field of artificial life (Langton, 1995; Bedau, 2007; Gómez-Cruz, 2013). Even management science has started to approach organisations as living systems (Mitleton-Kelly 2003). However, the discipline of political science, where this thesis situates itself, is only beginning to grasp the knowledge of complex systems.

Political science's mainstream tends to approach the study of governance systems, which are clearly not simple nor predictable, in ways that resemble or rest upon principles of Newtonian physics and classical science, although this has slowly but surely been changing over the past couple of decades. Mainzer (2007:367) unpacks this idea in the following quote: "Political thinkers, lawyers and politicians have believed in a mechanistic world of linear causality...Thomas Hobbes tried to transfer the Galilean and Cartesian laws of movement from mechanics to anthropology to the state theory". Similarly, Morçol (2001) explains that it is rather the quest for universal and fixed laws of governance what reflects such inspiration. This is why a large focus of the discipline are centralised organisations, hierarchical

structures, sequential processes, and top-down control, even though these are often accompanied by bottom-up, decentralised and horizontal structures and processes of some sort. Thinking about the limitations of the discipline's focus on top-down approaches is important, insofar a large set of social, economic, technological and spatial systems that are governed by the systems studied in political science are complex and, therefore, difficult to predict, far-from-equilibrium and with a tendency to self-organise. Therefore, attempts to exercise top-down or external control in these complex, nonlinear systems do not produce their expected results (Holling and Meffe, 1996).

It is not the goal of this thesis to argue that human social systems are complex. The authors I mention in the next section about complexity and social systems have done this before, much better than I could. But the reader, thus, must accept that human societies are indeed complex. Moreover, they must recognise that one of the most important lessons about complex systems, so far, is that when environments are often complex, forms of governance that exercise top-down control are not sound producers of order (Bar-Yam, 1997, 2000; Gerrits, 2012; Mainzer, 2007; Room, 2016; Schuster, 2004; Wachhaus, 2012, 2014). Something similar can be said about forms of governance which use centralised control, as argued by Bar-Yam (2009), Gershenson (2007) Rzevski (2011), and Schuster (2004). Centralised control also struggles to produce desired outcomes in the presence of complex systems. Yet, this thesis is not about a normative version of governance, but about how we approach governance that presents features of complex systems. Therefore, my aim in this thesis is to explain how complex governance was present in the case study, to demonstrate the explanatory power of complex systems theory in the context of social systems and some forms of governance in the making, namely SeaZones and other special jurisdictions.

Changing how we understand governance systems that are complex is not a trivial problem, given that, to a large extent, the systems in which political science focuses on are tasked with regulating, organising and guiding the evolution of societies. Thus, they need to be understood in ways that do not attempt to set their complexity aside, but that conceptually engage with it. Approaching complex governance systems through their characteristics as complex systems is especially important for some forms of governance that are possible today, such as floating Special Economic Zones. This is because they explicitly define themselves as an alternative to traditional models. My aim here is to show how some forms of governance, in particular complex governance - i.e., governance presenting features of complex systems -, can be understood through complex systems lenses. Doing this comes with an added 'advantage'. Several of the most important challenges and transformations of this century, such as climate change and cyberinfrastructure, also present features of complex systems. A complexity theory framework, then, provides a way to approach socio-political systems in ways that science before complexity could not. Several complexity theory authors have approached this issue with a well-known tautology, although applied specifically to governing, not to understanding, complex systems: governing complexity requires complexity (Ashby, 1956; Ostrom, 1998).

This tautology, the law of requisite variety, in my opinion, is one of the best principles applicable to complex systems. It states that only a system with at least as much complexity of another system can control it (Ashby, 1956). Bar-Yam (1997) explains this law specifically in the context of social systems, claiming that when collective complexity exceeds individual complexity, hierarchical control is no longer effective. On the contrary, having a 'requisite variety' offers a larger set of

solutions (Jessop, 2003). Authors such as Cilliers (2001) have used this principle of complex systems to explain that understanding complexity requires complexity too.

Based on the law of requisite variety, we can assess that more complex forms of governance, such as networks involving top-down and bottom-up processes, centralised, decentralised and distributed systems, among others, would more accurately describe and even govern the complexity of human societies, and some contemporary forms of governance than simple models involving top-down control. While I will not engage directly with the law of requisite variety in this direction, I want to use it as a starting point to stress how requisite variety can be used conceptually, even though I only mention it one more time in the thesis. Complex systems, such as human societies and some systems which govern them, can be understood via features and approaches that better capture their complex nature. Consequentially, creating a form of governance of such form requires more complex approaches too.

The emerging field of complex governance, that is, complexity theory extrapolated and adapted into governance, does two things in relation to the issue above. First, it attempts to understand certain governance systems through particular features of complex systems which some forms of governance seem to embody. Second, the field additionally searches for forms of governance that work in less centralised and top-down ways to traditional forms of governance. In this thesis, I mainly focus on the first of these two ideas, even though I find the second one more striking: using features of complex systems to understand governance in a project which sought to establish a form of governance that combined an alternative and an emerging form of governance.

Indeed, the Floating Island attempted to bring together an emerging and an alternative form of governance, Special Economic Zones and seasteads, respectively. The general idea was to create a floating Special Economic Zone. Special Economic Zones comprise areas within nations that have different policies from the rest of the country. And seasteads is the name given to politically autonomous human settlements in international waters where governance is privately provided. No seastead exist yet, but there are approximately 5.400 Special Zones around the world (UNCTAD, 2019:137). This is why I refer to seasteads as “alternative” forms of governance and Zones as “emerging”. However, because SeaZones do not currently exist, I categorise the Floating Island Project as an attempt to set up an ‘alternative’ form of governance, instead of an ‘emerging’. By alternative I mean a different, new option to nation-states. In this thesis, to make a distinction between states and emerging systems such as special jurisdictions, including SeaZones, I refer to states, democratic elections and political parties under the broad, and for some, problematic, term ‘traditional forms of governance’. I would rather use the term “legacy systems”, but that is another story.<sup>2</sup>

In a nutshell, in this thesis, I show how features of complex governance were present in the Floating Island, including the SeaZone and its institutional and regulatory structure, its international marketing campaign and the events which contributed to the Project fading throughout 2018. I use the term ‘fading’ and not

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<sup>2</sup> It is important to note that classifying SeaZones as alternative forms of governance has, however, limitations. As Chapter Five shows, SeaZones, being Special Economic Zones, are, in some ways, an extension to nation-states. However, because they are rooted in the idea of replacing states with private governance, I have allowed myself to use this term, even though there are limitations and blurred boundaries to how much a SeaZone is an alternative or an extension of states. While my goal here is not to solve this question, I do engage with the implication's of SeaZone's nested nature in the next chapters, particularly in Chapter Five and in the discussion and reflections of Chapter Eight.

'sunk' or 'failing' or something which indicates a specific end because it is not clear when did the Project ceased existing. Instead, there were several events and moments where the Project became less real and possible, but there was not a specific end to it. However, my aim is not to explain why the Floating Island declined. This does not mean that I do not provide causal explanations. I do provide them, but in the sense of Byrne and Uprichard: "how a particular complex system came to be the type of thing it is" (Byrne and Uprichard, 2012:112), instead of something different. Specifically, I take Byrne and Uprichard's approach to trajectories as effects and retroductive analysis, whereby a system is explained by tracing steps back into its past. This means that for some of the empirical observations of this thesis, instead of drawing casual links, I look back at what happened before the Project 'faded away'.

That said, my thesis argument is that the Floating Island exhibited three key features of complex governance: first, it was structured as a nested system; Second, it concerned stakeholders in multiple levels, including local and global; And third, it was pervaded by waves of cross-temporal and cross-spatial events. By using these three complex governance features (nestedness, multiple levels of stakeholders and waves) I show how features of complex governance lead to a better understanding of the governance, creation and demise of the Floating Island Project. It additionally helps to examine, from a complex systems perspective, the possibilities, limitations and challenges of creating special jurisdictions with emerging/alternative forms of governance, nested within nation-states. Further, the thesis discusses the implications of dealing with complex systems features when trying to create special jurisdictions with alternative and emerging forms of governance with extraterritorialities, such as being placed on the ocean. Here, I demonstrate how using complex systems theory as lenses, and the complex

governance field, can be good resources to explain the Floating Island Project, a case which exhibited features of complexity

The methodology used to dive into the research took elements from ethnographic research with participatory observation and documentary analysis. The empirical chapters will show how answering these questions with these methods contribute to expanding the field of complex governance by using the field's theories in novel approaches, in relation to a project involving a special jurisdiction that has not been sufficiently explored. However, the research also contributes to the emerging field of special jurisdictions with research findings which could become best practices for the maritime and floating nascent zones industry. As I present in the discussion chapter (Eight), my long-term goal is that these findings can help future early stage maritime and floating zone projects better strategise by designing projects that directly benefit all the stakeholders involved. Likewise, I hope they too help local communities detect early whether a project aligns with their interests.

For understanding this motivation, I should explain that the research additionally contributes to and rests upon the knowledge of two areas which are becoming increasingly important at the beginning of the century: special jurisdictions and floating architecture, especially as a technology to adapt to rising seas. Special jurisdictions have become a core economic engine for the 21st century. Authors such as Eastearling (2014), while being critical of Zones, uses examples of cases such as Shenzhen, Singapore, Hong Kong and Dubai to claim that Special Zones will probably dominate the economic future. The World Bank (FIAS, 2008) and Frazier and McKinney (2019) explain that Zones have managed to become what they are today because they have specific policy conditions that enable value-creating activities, such as entrepreneurship. Their small size also enables them to

innovate and even experiment with policy at small scales. However, their economic success is also explained by how they manage to be outside a state's regulation while being in its territory. This property of exception is called extraterritoriality (see: Laungaramsri, 2006; Eastearling, 2016). Extraterritoriality has led many special jurisdictions to surpass the GDP of large nation-states. Seven out of the ten top GDP per capita jurisdictions are either Special Economic Zones or microstates nested within larger nation states (World Bank, 2018; IMF, 2019; CIA 2017). Khanna (2016) recalls that Zones export trillions of dollars of goods, annually.<sup>3</sup> Floating, amphibious or water-based architecture is another growing area that is equally important for the research.

Floating architecture is starting to become an architecture and engineering 'trend'. Today, floating buildings and technologies are popularizing a solution to adapt to sea-level rise (De Graaf, 2009, 2012). This topic is even being discussed and promoted even at the United Nations (2019). Today, there are floating: farms (Moustafa, 2018), agriculture (Mok et al., 2014), aquaculture (Cauvin, 2014), solar panels (see: Ciel et Terre, 2011) wind turbines (Energy.gov, 2015), wave energy generation (Floating Power Plant, 2019), airplane runways (Lamas-Pardo et al., 2015), container terminals Reham (2015), underwater data centres (Swanson, 2011), and, as Wang and Tay (2011) recall, floating: hotels, bridges, performance stages, oil rigs, fuel storage facilities, cruise terminals, ecological villas and towns. All the technologies needed to build an offshore floating neighbourhood, like the Floating Island, already exist. Increased maritime economic activities have helped

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<sup>3</sup> The top ten places with higher GDP per capita according to the IMF are Qatar, Macau, Luxembourg, Singapore, Brunei, Ireland, Norway, United Arab Emirates, Kuwait, Switzerland, Hong Kong, United States. According to the World Bank, the countries are Qatar, Macau, Luxembourg, Singapore, Brunei, Ireland, United Arab Emirates, Kuwait, Switzerland, San Marino, Hong Kong, Norway. And according to the CIA, the top ten are Qatar, Monaco, Macau, Luxembourg, Falkland Islands, Singapore, Bermuda, Isle of Man, Brunei, Ireland, Norway, Kuwait and the United Arab Emirates.



popularise floating architecture (Wang and Wang, 2014). Many of these are sustainable technologies art of what is known as the 'blue economy' (Pauli, 2019; Quirk, 2017) or the 'green economy in the blue world' (UNEP et al., 2012). The blue economy is a twenty-four trillion-dollar market that comprises activities and businesses related to the ocean (Hoegh-Guldberg et al., 2015:5).

Besides structures on the ocean, in total, the Floating Island combined three extraterritorial innovations: it had floating architecture - thus it had a spatial extraterritoriality component of building on the ocean; It sought to have legal innovations with a special regulatory framework - thus it had legal extraterritoriality; Also, it would have had a digital extraterritorial system by governing the SeaZone with a cryptographic token. In discussing these extraterritorial innovations, I will show how a project with a special regulatory framework, where land is created from scratch and is placed over an ocean, and sought to be digitally governed, can benefit from the explanatory power of complex system theory, in general, and complex governance, in particular. However, doing this in the context of complex systems is not easy.

Stepney and Walsh (2018:319) list properties of complex systems which make them difficult to understand. These include: feedback, emergence, relations and interactions, openness, instability, multiple timescales and tipping points. While I am aware of these and other limitations to understanding complex systems, to fairly describe them in the thesis' written accounts, the complex governance features I have chosen to study here (nestedness, multiple levels of stakeholders and waves of cross-temporal events), carry within them other features of complex systems. As the empirical chapters show, these three concepts entail multiple systems, levels, spaces and times. To mention one example, the empirical observations about

waves bring together several places (Floating Island, Atimaono lagoon, municipality Teva I Uta, French Polynesia) and several times (Polynesia's colonisation two centuries ago, Polynesia's colonial present situation as an "overseas collectivity" and online and offline protests in 2018). In this way, the case study aims at transcending, to the extent to which it is possible, the limitations of only exploring either individual or holistic features of a system, or a single point in time. As such, this thesis seeks to they represent a compelling example of the type of conceptual contributions that complex systems theory can bring to the study of alternative forms of governance, such as SeaZones, and cases like the Floating Island.

#### ***1.4. Scope and Limitations***

There are several limitations to this research and its findings. Some of them are due to a non-disclosure agreement. Signing this document restricted the evidence I could present as data. It forced me to rely on publicly accessible information. For several parts of the research, notably for Chapters Five and Six discussing the legal feasibility study and local and global stakeholders, this agreement meant that I could not use evidence which would have strengthened my claims and argument. More on this in the Methodology Chapter. This agreement also led me to share only part of a more comprehensive story. A complementing approach could have examined internal factors within the Company that might have contributed to the Project's fading. Some of this thesis's findings might also be constrained by my subjective impression of the Project based on the participant-observation. Another limitation of this investigation is that the Floating Island Project was never built. This makes it impossible to contrast what the Project's documents suggest with what the Project implemented once it was developed. This is a limitation proper to document analysis which I have recognised in the methodology Chapter.

Another limitation is that it is not possible to directly extrapolate some issues that appear relevant here to projects in other locations. Past events and visions of the future are different everywhere. Some places might be more open to accepting a project with an international demographic or an enclave. Others might not use Facebook in the way it was used here, where it was even the government's primary communication tool. Likewise, the role of local stakeholders might be less decisive in other places. And some governments, depending, for instance, on their degree of authoritarianism, can operate with less community support regarding special regulations, floating, maritime and Zone projects. Nevertheless, in the conclusions I do bring out the research findings and how can they be read for alike special jurisdictions.

Note that, although this thesis's case study has an origin in free-market political economies which seek to replace, reduce and sometimes eliminate the role of the state in the provision of governance, this thesis is not a critique nor the opposite of these ideas. Instead, my aim is to examine how complex governance unfolds in the Floating Island Project.

### ***1.5. Outline of the Thesis***

I divide the thesis into three parts. Part I situates the thesis. Part II comprises the empirical chapters. Part III contains the discussion, reflections and conclusions. This thesis proceeds as follows. The next chapter, Chapter Two, describes complexity theory and key features of complex systems that are relevant for this thesis. More specifically, it engages with a subfield within complex systems theory that deals with social systems. After addressing complexity, the chapter synthesises the complex governance field. The chapter highlights a gap in the

scholarly field of complex governance for studying and special jurisdictions, such as the one presented in this thesis. The chapter additionally introduces the literature review on SeaZones because the case study of this thesis requires its own historical context and conceptual framework. Chapter Three begins by introducing the case study entitled the Floating Island Project in French Polynesia. It describes its origin, outlines the main actors, discusses its vision, and goes over the events which led to its 'fading'. The fourth chapter explains the approach to the research process. It discusses the methodological approach that drove the research and the methods employed for data collection. The methods were participatory observation - online and offline - and documentary analysis. Furthermore, the chapter outlines the research design, reflects on the advantages and disadvantages of the methods and discusses ethical aspects of conducting the study and my role. Transversal to this chapter is a reflection of my own role as a participant-observant. These are followed by the empirical chapters.

Chapter Five discusses the institutional and regulatory framework of the Floating Island Project and its SeaZone. It begins by explaining a feature of complex systems, nestedness. The chapter shows how the concept of nestedness describes how the Project's framework was and would be structured. It explicates two origins of the Project's nestedness, French Polynesia's colonial history and a decision by The Seasteading Institute to create maritime Special Economic Zones in the territorial waters of a host nation instead of seasteads in international waters. The chapter also gives examples of domestic and supranational institutions related to French Polynesia's own history, as a nested system, which would have framed the Project. The chapter uses a concept present in the complexity governance literature, 'tangled', to explain the ambiguous and overlapping jurisdictions of the multiple institutions of the Floating Island Project's nested framework. The chapter

stresses that creating the Floating Island Project's SeaZone, with the regulatory exemptions it sought, would have been a process of 'untangling' institutional regulations. Next, the chapter presents additional international government stakeholders which the Project brought in into its nested structure with the use of a cryptographic token to govern itself. The chapter closes with a critique of approaches that set up special jurisdictions that focus too much on formal stakeholders.

Chapter Six discusses non-government stakeholders in the Project, local and global. Local stakeholders were Polynesians who lived or worked near the potential location of the Floating Island. Global stakeholders were the participants of the Project who bought its tokens or belonged to demographics which the marketing materials targeted. The chapter argues that the Project concerned multiple levels of stakeholders, including local and global. However, it maintains that the Project targeted global, to the detriment of locals. To explain why the Project concerned local stakeholders, I use Elinor Ostrom's work on complex governance of socioecological systems, in particular how her work highlights the relevance of current appropriators of the commons for their governance. To explain why it concerned, and targeted, global stakeholders, I use data from the Project's cryptographic token, Varyon and its marketing. The chapter additionally describes missed opportunities for involving locals in the Project's governance documentation.

Chapter Seven argues that networked cross-temporal and cross-spatial events pervaded the Floating Island Project. To explain these events, I use Sylvia Walby's use of the term 'waves' in relation to complex waves in the context of global social movements, such as feminism and globalisation, over time. This chapter looks at three waves and their interactions as they relate to the Floating Island: the first

wave concerns the wave of French colonisation of Polynesia; The second wave involves a streak of Facebook posts, which went viral in Tahiti in the first quarter of 2018; The third wave consists of a series of protests at the Project's most likely lagoon, at the Assembly and the streets, organised by local fishermen and women and the opposition party. The goal of this chapter is to show how the momentum from the interaction of these three waves contributed to the 'fading'—some may say, the demise— of the Floating Island. The chapter presents 'accompanying ripples' which also contributed to the fading. Some of these ripples are distrust towards the government, the Project's local representative and foreign companies doing businesses in French Polynesia. Throughout the chapter, I point out important properties of waves, such as their networked and cross-temporal nature. I do this, for instance, when analysing the waves' intertwining in the Project, even though the time-span between the start of the wave of Polynesia's colonisation and the two subsequent waves were approximately two hundred years apart. This is followed by the concluding chapters.

Chapter Eight discusses the thesis as a whole. It discusses the implications of complex governance in projects ideologically-driven and the possibilities, limitations and challenges of setting up alternative forms of governance. It then presents five best practices derived from the research useful when creating these types of projects. And it concludes with some thoughts on the project's extraterritoriality and how it relates to autonomy. Last, Chapter Nine synthesises the thesis. It presents the contributions and concludes.

## **2. CONCEPTUAL FRAMEWORK ON COMPLEX GOVERNANCE**

### ***2.1. Introduction***

This thesis contributes to this interdisciplinary area of research that within the disciplines of political science and sociology deals with complex systems. More specifically, the chapter speaks to the field of complex governance, seeking to contribute to and to extend the scholarship on governance of complex socio-political systems in general and the Floating Island Project in particular, including its form of governance, a SeaZone. This chapter has two main components. The first part is about complexity and the second one is about SeaZones. The first four sections about complex systems introduce the conceptual and analytical framework used throughout the thesis. Their goal is to provide the theoretical background of the research on complex systems theory and to present a brief account of the use of complexity in the social sciences. This helps to understand the complex governance field, which studies governance through the lenses of complexity science.

The next section begins with a description of complexity. It explains the features of complex systems relevant to this thesis, such as nestedness, self-organisation, multiple levels, and waves. It then outlines the benefits of using complexity as a theoretical framework for studying governance and for the case study. The chapter then briefly explains the concept of complex governance and the complex governance field. However, because the form of governance that the Floating Island Project tried to implement is new, following this, the chapter also introduces

the conceptual origin of SeaZones. The purpose of doing this is so the reader becomes familiar with the political imaginaries where the Floating Island Project originated. This situates the Project and enables us to understand the empirical chapters better.

## **2.2. Complexity**

There is no set definition of complexity (Cilliers 1998), and my aim here is not to present a comprehensive account of it. Sophisticated attempts at this have already been made by authors such as Gerrits (2012), Mitchel (2011), Rescher (1998) and Wolfram (2002), and I will selectively draw on these or others as needed. To introduce the way I have used complexity in this thesis, in what follows, I aim to briefly explain complexity and highlight some of its key concepts that are especially relevant to the case study. I do this before going on to say more about the complex governance scholarship that frames the thesis overall.

The origins of complexity and the theory-building around features of complex systems, including social systems, are in physics (Prigogine & Stengers, 1983, Turing, 1990), but also in biology and chemistry (Prigogine, 1961; Gell-Man, 1995; Nicolis, G & Prigogine, 1977, Nicolis & Nicolis, 2012). There have been many attempts to synthesise the key features of complex systems, one of them is by Cilliers. Cilliers (1998:3) provides a useful list on which I base the following description of complex systems. A complex system generally has numerous elements interacting nonlinearly. The interactions among these elements occur locally, among immediate neighbours. But this proximity can be physical and or informational. This means that two systems can be far from each other, but have a direct link (in place and time). Therefore, in complex systems, the notion of local does not necessarily mean physical proximity. Additionally, the interactions of



elements in a complex system are diverse, rich in diversity and are also interdependent. Simply put, these interactions are nonlinear. This means that there is not a proportional correspondence between inputs and outputs. These systems can also present chaotic behaviours. Small events can have large, unpredictable, unexpected results in the future. This occurs because complex systems have positive and negative feedback loops, which can stimulate or inhibit interactions, close or far into the future.

Moreover, complex systems are open, far-from-equilibrium systems, which exchange information, energy and matter with their environment. This makes the border between complex systems and their environment hard to define. Complex systems are also history-dependent. That is, they evolve through time, and their past is co-responsible for the present. However, it does not determine it.

No element or part of a complex system can grasp nor represent its whole informational picture. They have too many “moving parts” and, as Holland (1995) explains, these systems also adapt (Holland, 1995). Another way to describe complex systems is as systems that self-organise and generate emergent behaviours (see Holland, 2000). For instance, ecosystems emerge from local level interactions (Levin, 1998). Thus, they are characterised by properties such as uncertainty, unpredictability, non-determinism, non-linearity, bifurcations, self-organisation, adaptation and evolution. Each of these features can be a property, process, phenomena, characteristic or behaviour. The three particular features of complex systems that are relevant for this research are nestedness, multiple levels and waves. Here I only briefly explain them, because I engage more in-depth with how each unfolded in the case study in the empirical chapters. I begin with nestedness.

Nestedness (Simon, 1962), as explained in the introduction chapter, is a structural property of complex systems, consisting of systems within systems. We find examples of nestedness in the organisation of biological organisms (Oltvai and Barabási, 2002), human societies (Simon, 1962; Cilliers, 1998), the internet and the worldwide web (Barabasi and Bonabeau, 2003). Cells, tissues, organs, organisms and the biosphere are organised hierarchically, one 'inside the other'. However, one key thing to note about nested complex systems is that, despite this hierarchical organisation, systems at different levels can exchange information with any other. For instance, in biological organisms, global environmental factors affect cells, but cells could potentially affect entire organism populations. This characteristic of complex systems, nestedness, is vital in Chapter Five, where I use it to discuss the structure of the Floating Island Project's institutional and regulatory framework. Nestedness relates to, but differs from, having multiple levels. Having multiple levels is the second key feature of complex systems which was reflected in the Project's complex governance.

Organising in multiple scales or levels is also a fundamental feature of some complex systems. Wilensky and Resnick (1999) explain that the organisation of complex systems in levels is fundamental for how global behaviours and patterns emerge in complex systems from local interactions. Wilensky and Resnick mention several examples to explain the multi-level structure of complex systems. One is the difference between cars and traffic jams. Another example they provide is the difference between people and crowds in stadiums. Similarly, Li and Kwauk (2003:522) illustrate multiple levels with the elements of the periodic table and how they generate larger levels of physical and chemical ordered structures. Likewise, Urry (2004:236) introduces the example of individual human health, entire health

populations, and the health care systems they are part of. It is important to understand that in levels of a complex system, information is processed interactively among multiple agents at multiple scales (Eberbach et al., 2004; Goldin et al., 2006; Dodig-Crnkovic, 2011; Schneider, 2012; Burgin & Dodig-Crnkovic, 2013).

The multilevel feature in this thesis relates to the idea that there are local and global systems and interactions. Yet, as I wrote above, this is different from nestedness. A key distinction between a system being nested and one having multiple levels is that, in multiple levels systems, 'higher' levels do not necessarily constrain 'lower' ones. In other words, nested systems are made of multiple levels containing each other, whereas multiple levels no. For example, Chapter Six discusses local and global stakeholders. The category *global* stakeholders of the Floating Island refers to the international supporters of the Project. In contrast, *local* stakeholders refers to the geographical neighbours of the Project in the island of Tahiti. From a nestedness perspective, local stakeholders, being part of the "lower level", would be nested within the larger system of global stakeholders, the "upper level". Nevertheless, in this case, local and global are separated because local stakeholders, Polynesians, were not part of the Project's global stakeholders. However, while these global stakeholders do not emerge from nor contain the local ones, what is behind this stakeholders distinction is nestedness and the idea that in each geographical location, there are local stakeholders, and that the combination of local stakeholders from many locations creates the category of global stakeholders. The relation of these two concepts enables seeing how the empirical Chapters Five and Six, five focused on nestedness and six on multiple levels, relate. A complimentary way to further understand this feature is through

Vincent Ostrom (1972, 1999) and Elinor Ostrom's (2010) work on polycentric systems.

For E. Ostrom (2009b:552), polycentrism, in the context of governance specifically, means that there are "Multiple governing authorities at different scales rather than a monocentric unit". These levels are interdependent. In other words, polycentric governance refers to governance "in which political authority is dispersed amongst a range of bodies that operate in overlapping jurisdictions which are not in a hierarchical relationship to one another" (Skelcher, 2005:89). Ostrom mentions different scales in polycentric systems, such families, firms, local governments, networks of local governments, states or provinces, regions, national governments and international regimes. Ostrom's idea is similar to Urry's (2004) thesis regarding the multiple institutions that form part of the global world. Because of the multiplicity of levels and stakeholders involved, works on this type of polycentrism often appear in relation to the governance of natural resources (Kuzdas et al., 2015; Carlisle and Gruby, 2017; Berardo and Lubell, 2019) and complex sustainability issues (Monkelbaan, 2019). However, in this thesis I chose to focus on Ostrom's work on the commons, and not on her theories on polycentrism, because her work on the commons more extensively discusses the importance of local stakeholders in the governance of complex socioecological systems, a key idea I want to emphasise when discussing the Project's multiple stakeholders.

Other key features of complex systems relevant for this thesis are critical turning points, chaos and fitness landscapes. I "deal" with them through the concept of

waves because of the social nature of the systems I study.<sup>4</sup> The concept of waves, as Walby (2009:100) uses it, consists of social processes that that can build up in multiple points of time. In Walby's words:

A wave is a distinct set of social processes with a particular kind of temporal and spatial characteristic that can suddenly transfer social practices from one location to another; it can build suddenly, interact with a social system, and either produce change or decay or hybridize. It is especially important to understanding the implications of emergent civil societal projects on established social formations.

(Walby, 2009:100)

Walby (2009:83) writes that tipping points relate to waves because some waves may occur because the system has reached a tipping point:

This sociological literature of revolutions and political turning points encompasses a theorisation not only of 'normal' development, but also of the build-up of various pressures into the critical political juncture, and of the explanation as to which pathway from a series of possibilities is taken. This typically involves explanations at different levels of abstraction, including not only individuals but also institutions, structures, process, and the level of the system as a whole.

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<sup>4</sup> Walby (2009; 3) recalls that there are two main ways to understand transformations in complexity. One is through the concept of co-evolution of complex adaptive systems, linked to the Santa Fe school. The second one is through critical turning points, associated with Prigogine. Critical turning points take place suddenly, bifurcating the path of the system in question. For Walby, both notions are complementary. Walby (2003; 12) additionally notes that in complex systems small changes can have larger sudden effects in the future. This notion is called chaos. This chaotic nature of complex systems is something that the empirical chapters show in the study of waves.

Walby (2009:83) also discusses how the notion of waves carry behind it critical points and paths:

A further conceptual addition is proposed to the concept of a critical turning point: 'catalysts and dampeners'. Two social systems each on trajectories of transformation may change at different rates. There may be factors that speed or 'catalyse' the rate of change while others slow or 'dampen' the rate. They may not independently change the nature of the system, other than its rate of change. Certain forms of polity speed or catalyse economic development, while others slow or dampen economic development. The concepts of catalysts and dampeners draw on the conception of positive feedback within a system as part of this.

I use the concept of waves for it explains how past and present sociopolitical events came together in the Floating Island Project's decline. This is my way to show the property and the way it was present as feature of complex governance.. Indeed, when waves are taken to a governance context, and in particular in this case study, they shape in the form of events in the past and present that affected the Project. Similarly, when nestedness and multilevel appear in the context of governance, they reflect forms of governance that involve nested institutions and multiple levels of stakeholders.

Another relevant complex system feature for the case study, although one which I do not explore in-depth, is self-organisation. Self-organisation is one of the most common means in which order emerges in complex systems (see: Turing, 1990; Kauffman, 1996, 2000; Camazine et al., 2002). It consists of order which emerges

in a bottom-up way with no external intervention or centralised control (Kauffman, 1993). A system is self-organising if “it acquires a spatial, temporal or functional structure, without specific interference from the outside” (Haken, 2006). According to Byrne & Callaghan (2013), self-organisation is an occurrence at a higher level, in a non-summative way, of interactions in complex systems. This is why self-organisation usually appears with the concept of emergence (Crutchfield, 1994:516). The concept of self-organisation is used frequently to examine social phenomena (Fuchs, 2006; Imada, 2008). In this thesis, it explains the process behind the waves which pervaded the case study. However, I chose not to make this feature central to the thesis because self-organization has been explored in many types of complex systems. Moreover, Walby’s (Walby, 2003, 2009) concept of waves accurately embodies the shaping of the event surrounding the Project’s fading.

As several of the descriptions of the aforementioned features have suggested, sometimes it is hard to isolate features of complex systems. For instance, emergence, another feature of complex systems, is the process of newly created structures and properties from self-organised interactions. Emergence relates to self-organisation, but also goes hand in hand with complex systems capacity to adapt (Holland, 1995). Emergence, as well as self-organisation, entail decentralised processes and networks of multiple levels (Mucha et al., 2010; Gómez et al., 2013; Battison et al., 2017). Because of the conceptual richness of these and other characteristics of complex systems to explain social phenomena, the social sciences have embraced the study of complex systems. In the next section, I briefly outline key authors and their ideas.

### **2.3. Complexity in Social Science**

There is a growing body of work within the social sciences and, in particular, political science, which begins from the recognition that human social systems are complex (Mittleton-Kelly, 2003a, 2003b; Sawyer, 2005; Sanderson, 2009; Byrne & Uprichard, 2012; Teisman & Gerrits, 2014; Byrne, 1998; Byrne and Callaghan, 2013; Castellani and Hafferty, 2009; Urry, 2013; Room, 2016; Gerrits, 2012; Batty, 2013; Walby, 2003, 2004, 2009; Haynes, 2008, 2015; Geyer and Rihani, 2012; Geyer and Carney, 2015; Allen, 1998; Lansing, 2015; Lansing and Cox, 2019; Mittleton-Kelly, 2003a, 2003b; Ostrom, 1995, 1990, Krugman, 1996; Ormerod, 2005, 2012). Each useful in their own way, together these authors have extended the application of complexity into social science fields, including political science. In different ways, they provide overviews of social complexity, mention applications, implications, methodologies and examples.

To mention only a few of these contributions, Castellani and Hafferty (2009) present an overview of the intersection of sociology and complexity by looking at the parallel history and development of these fields, both of which took key notions from systems thinking and cybernetics. From their combination, the authors develop an area of research called Sociology and Complex Systems – SACS. Urry (2004) also presents, in a very clear way, key characteristics of complex systems, such as non-linearity, emergence, having phase spaces and attractors, which makes complex systems different from systems that are not complex. Ormerod (2012) uses the concept of networks to explain how thinking about individual motivations and the connections among individuals and the institutions they are part of can lead to better policy-making. And Mittleton-Kelly (2003b) uses principles of complex systems to develop new ways to understand organisations. This thesis builds on and extends these authors' contributions,



specifically in the area of complex governance as it relates to the Floating Island Project.

Despite the trajectory and contributions of complexity in the social sciences, conceptual approaches to complex systems are sometimes overlooked outside of the social sciences when they lack a mathematic or computational apparatus. However, Byrne & Callaghan (2013) point out that the scientific nature of social complexity should be taken for granted, regardless of whether social complexity uses mathematical or computational models or if it *only* uses a qualitative approach. Nevertheless, often the social sciences approach complex systems with tools such as modelling and simulation (North & Macal, 2007), social network analysis (Ter Wal & Boschma, 2009) and metaheuristics (Talbi, 2009). While it remains the case that a great part of complexity theory, indeed, focuses on computational and mathematical tools (see Bonabeau and Theralauz, 1995, North & Macal, 2007), the extensive body of literature dealing with social complexity recognises some the limitations of entirely computational approaches to comprehend the social world, although their contributions are, indeed, accepted.

While recognising the possibilities of modelling and simulation, this thesis uses a conceptual approach to complexity for examining the Floating Island Project. By approaching complexity conceptually, I am following the work of other complexity scholars (e.g. Ostrom, 1990; Uprichard and Byrne 2006; Byrne 1998; Walby, 2009; Gerrits, 2012; Byrne and Callaghan 2015; Room, 2016), whose study of social systems tends not to use computational tools. A conceptual approach to social complexity allows me to unpack the findings of the case study, such as the reasons why the Floating Island faded, better than if I had used computational models. I explain the reasons behind my research approach in the methodology chapter.

Before proceeding, I should add that, in social complexity, there is a recognition by authors such as Byrne and Callaghan (2013) of political agency in the work of complexity scientists dealing with the human social world and how their work relates to possible interventions that could drive changes. In this sense, this thesis attempts to make a political statement about the use of complex systems theory to understanding complex social, political, legal, historical, environmental and technological phenomena. Indeed, one of my aims with the study of features of complex systems in the Floating Island is to show how complexity can help understand relevant issues in creating special jurisdictions, some of which are driving several of the century's most significant governance transformations. However, I am more interested in how this can then help move floating zones from design to implementation in better ways.

Following the work of de Puig de la Bellacasa (2017), one of my interests with this thesis, as I bring out in the conclusions when emphasising on the role local stakeholders should have in these projects, is to 'mobilise care' towards the neglected right of local stakeholders to decide about the future of their territories and the ways they join contemporary governance and urbanisation trends. The issues and features I bring out in the empirical chapters are a reflection of this desire. That said, those cases where I speak *for* Polynesians, I do it acknowledging my own involvement in the reproduction dominant values which Puig de la Bellacasa tries to get away from. Nonetheless, my hope that this thesis paves the path to more bottom-up zone projects; projects where moving from design to implementation is done from a perspective of care and the inherent sense of responsibility it carries. This means having non-anthropocentric ways of managing maritime zone projects. This project was respectful in this way. However, it also

means responsibility for human stakeholders on the disadvantaged side of the power dynamics. This is an important topic, not only because I foresee that many projects that will come after this SeaZone might focus on aquaculture and might prioritize non-human exploitation, but also because that do not, could still derive in interactions that are unequal, unfair for local human stakeholders. To avoid this, the bumpy path from design and planning to implementing needs to be thought carefully; care as thoughtfully and care as in with respect. Central to a fair implementation plan is governance. Planning and implementing are ultimately related to it. And governance, indeed, plays a key role in this thesis. The next section introduces governance from a complex systems perspective: complex governance, the concept and the field.

## **2.4. Complex Governance**

For the purposes of this research, the notion of governance used in this thesis is Jessop's (1997:1): "the complex art of steering multiple agencies, institutions, and systems that are both operationally autonomous from one another and structurally coupled through various forms of reciprocal interdependence".<sup>5</sup> This thesis extends Jessop's definition by using complexity as a way of driving the kind of systems that governance structures and processes need to embrace. That is to say, the approach to governance as it is used in this research implies that complex governance exhibits several features of complex systems. Indeed, from a complex systems perspective, my research uses several features of complex systems, nestedness, multiple levels and waves. From a complex governance perspective, these concepts translate into nested institutions, multiple levels of stakeholders and waves of cross-temporal events. The core use of these features to this thesis

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<sup>5</sup> This complex governance definition helps sustain my claim that the Project's lack of engagement with all levels of the SeaZone played against it. This will be more clear in the empirical chapters.

situates it within the complex governance field. However, there is also complex governance as a concept.

As a field, Morçöl (2014) described the complex governance field as a combination of the literature on governance, networks and complexity. As a concept, Teisman et al. (2009:5) describe complex governance as governance that presents non-linear dynamics, self-organisation and co-evolution among subprocesses and subsystems. For Vella and Baresi (2017), complex governance means governance involving multi-dimensions, multi-stakeholders and multi-scales. Other approaches to complex governance, such as Muñoz-Erickson's (2014), recognise that complex governance involves multiple visions and politics of knowledge in policy action systems. For Lubell et al. (2016), complex governance means solid networks of multiple formal institutions. Similarly, Rodriguez-Pose (2008) describes complex governance as a horizontal and vertical structures in which institutional public and private actors coordinate in bottom-up ways in participatory and experimental policy-making involving cities and regions. Hurell (2007) understands it as a process in which transitional networks involving state, market and civil actors participate in creating of transnational, global rules. And Abbot sees in complex governance the possibility for a non-hierarchical orchestration of complex governance as a way to increase the benefits and reduce the costs of increased institutional complexity.

Texts covering complex governance have started to peak in the last 11 years. Specifically within this area of work, in 2017, out of 198 titles appearing in a Web of Science search, most publications dealt with the disciplines of political science (Cairney, 2012; Dryzek, 1994; Haynes, 2015), public administration (Haynes, 2008; Wachhaus, 2012, 2014), international relations (Keohane & Nye, 1977);

Keohane, 2001; Thompson et al. 1998), economics (Hidalgo & Hausmann, 2009; Holling, 2001) and environmental sciences (Deere-Birkbeck, 2010; Underdal, 2013; Wesley & Pforr, 2010). Additionally, some works belonged to the disciplines of economics and finance (Bushman et al., 2004), law (Post & Eisen, 2000) and geography (O'Sullivan, 2004), although these were relatively less. Furthermore, there were important publications referring to the fields of management and business organisational theory (Anderson, 1999), firms (McKelvey, 1999) and leadership (Ulh-Bien and McKelvey, 2007). However, in 2019 the results of the Web of Science revealed that environmental studies and public administration surpassed texts on political science.

One of the most common topics discussing complex governance is climate change. It is common in the climate change literature to focus on transnational climate governance as an example of complex governance (Hale and Andonova, 2016). Works about climate change and complex governance usually refer to complex governance from a structural point of view (similar to Ostrom), one where multiple institutions are present (Gómez Lee and Maxfield, 2017; Haarstad, 2016; Zia and Koliba, 2011, Hamilton and Lubell, 2017). The presence of various types of institutions is, indeed, a characteristic of complex governance. Hence why authors such as Abbot (2012) see complex governance as the global, decentralised, fragmented structure with no central coordination in which relations among institutions, with state and non-state actors, shape to address transnational issues, including climate change. Similarly, Bulkeley (2005:876) argues that issues in environmental governance are "created, constructed, regulated and contested between, across and among scales, and through hybrid governing arrangements which operate in network terms". Numerous works in the field also discuss water (Kuzdas et al. 2015; Söderberg, 2015, 2016; Siegmund-Schultze et al. 2015) and

water's transboundary nature (Dietz et al., 2012). This inherent quality of oceans, being transboundary, is relevant in Chapter Six where I argue that the Floating Island Project concerned Polynesians. D'Zouza and Nagendra et al. (2011) explain why it is useful. They describe cases where urbanisation processes sidelined traditional users of a water common.

While complex governance helps better explain certain types of governance systems that present features of complex systems, and despite that this polycentric approach has been central to discussions about climate change in recent years, authors mention several challenges of dealing with complex governance forms. For example, Wyborn (2015) discusses the challenges of implementing policies in complex governance settings. This might due to lack of face to face interactions or coordination problems in the network. For Yates et al. (2013) some problems arise because of the difficulty for small places to implement decisions involving national, regional and international strategies to cope with unsustainable marine environmental practices. Berardo et al. (2015) note the challenges of complex governance structures for the management of regional natural resources. Zia and Koliba (2011) report problems of accountability when there are too many players involved. Smucker et al. (2015) criticise the dissonances between national views and local realities when adapting to climate change through this type of systems. Because of the often transnational nature of complex governance, several publications discuss the lack of a central role of states in complex governance situations. As Kahler (2016) explains, complex governance involves transnational spaces. Therefore, national governments are no longer the central and mediating actors between subnational and global actors, yet they still play the role of providing the functional boundaries. Teisman and Edelenbos (2011), likewise, see complex governance where, without any central control, multiple

agencies synchronise. In sum, complex governance can be seen as hybrid, nested forms of governance with local and global actors. This is why Farrell and Newman (2018) see complex governance as an opportunity for non-state actors to influence global agendas.

As a way to begin linking this part of the theoretical exposition on complex governance with the next part discussing SeaZones, outside of a complex systems perspective, I should note that literature on complex governance discussing special jurisdictions has not been extensively developed. Indeed, a Web of Knowledge search combining the terms “complex system” and “special economic zone” shows no records. Similarly, a google scholar search with the terms “complex system”, “complexity” and “special economic zone”, shows 198 results. However, only 9 of these results specifically discuss Zones and only 5 of them truly focus on Zones and complex systems. The other works are explained by the colloquial use of the word *complexity* outside of a complex systems framework.

One of these texts discussing complex systems and special jurisdictions is by Devadas and Gupta. Devadas and Gupta (2011) use a system dynamics methodology to analyse the relationship between special zones in India and the broader urban area where they locate. They explored infrastructural, environmental, economic, physical, social and ecological parameters which lead zones to push manufacturing clusters, attract capital and technology and provide easy business environment. The authors conclude that a way to increase zone’s spill-over effects is to locate them near rural areas, as opposed to big cities. The other study is by Cooke and Fangzhu (2012), who look at how non-western Chinese firms use western market research and environmental benchmarks to penetrate western markets. Cooke’s and Fangzhu’s chapter uses a socio-technical

systems perspective based on multiple level systems analysis comprised by markets, industry, science, technology, policy and culture subsystems to look at China's transition from a fuel-based economy to renewable productions. They do so to study this strategy from a resilience perspective. The publication uses notions related to complex systems to conduct the analysis, such as a lack of centralised central control, adaptation and far-from-equilibrium in the Chinese innovation strategy that combines green technologies with manufacturing. Another publication is a book by Legendijk et al. (2009). The book's overarching narrative explores the overlapping of multiple forms of governance, scales and territorialities today, between the state and other forms of governance, including zones. Among its chapters, Brenner (2009), specifically, looks at the history, from a complex governance perspective, of peripheral industrial and manufacturing and enterprise Zones in Europe. And Cerny (2009) refers to how neoliberalism (a concept often associated with Zones) pushes to rethink territories. This thesis is the first attempt in the field to study a floating Special Economic Zone.

As for seasteads, while the complex systems concepts of 'emergent' and 'the adjacent possible', popularised by Stuart Kauffman (2000), appear in two foundational seasteading texts from where SeaZones originate (see Mutabdzija and Borders, 2011a, 2011b), these terms are only briefly mentioned to explain the idea that the map of future of legal systems, which include seasteads, reveals itself as these systems advance. Mutabdzija and Borders use the adjacent possible as a starting point to think about a seasteading strategy. However, these two concepts are not discussed in depth nor further. And last, there are no publications to date that discuss SeaZones from a complex systems perspective. In the next section, I provide a conceptual and historical account where SeaZones originate. The



section help understand some of the Project's initial conditions that made Polynesians antagonistic to it.

## **2.5. SeaZones**

In a nutshell, SeaZones result from combining two forms of governance, seasteads and Special Economic Zones. SeaZones adopt the legal frameworks of Special Economic Zones and are inspired by seasteads maritime spatiality as a form of governance. The topic of SeaZones is so recent that there are only a handful of academic publications that focus entirely on them (see Lallemand-Moe, 2017a; Mezza-Garcia, 2019, Ranghanatan, 2019; Bell, 2017a; Bell, 2017b; Bell, 2018). Bell (2018), who coined the term, describes SeaZones, such as the Floating Island Project's, as floating communities with special jurisdictions - "a new kind of special economic zone in a country encompassing both land and water areas". Bell (2018) clarifies that a SeaZone can mean one of two things. First, it is the delimited physical space where a special regulatory framework applies. Second, a SeaZone comprises the special regulatory framework of that physical space. Thus, the difference between the SeaZone and the Floating Island Project is that the term SeaZone refers to the regulations of the Project, as well as to the area covered by those regulations. In contrast, 'Floating Island Project' refers to the Project overall. While no SeaZone exists yet, here I present the literature and ideas from where they originate from to better understand the execution and developments of the Floating Island Project. I do this by unpacking key notions developed by The Seasteading Institute and others relating to Special Economic Zones.

Broadly, Special Economic Zones – hereafter referred to as 'Zones' - is the name employed for areas in countries that follow different regulations or tax exemptions to rest of the country. The World Bank describes Zones as: "geographically

delimited areas administered by a single body, offering certain incentives (generally duty-free importing and streamlined customs procedures) to businesses which physically locate within the zone” (FIAS, 2008:2). Zones’ purpose is often to augment economic activities in specific places or industries and to attract businesses (FIAS, 2008). Because of this concentration of reforms, Zones are among the strongest engines of economic growth around the world, especially in late-development countries (Defever et al., 2018). They tend to increase national exports (FIAS, 2008) and improve the local and national economy (Moberg, 2015a, 2015b). For instance, in 2016, Zones’ regulations led to over 200 billion USD in global exports (Khanna, 2016). This is partly explained by how their tax and regulatory incentives appeal to companies and investment (He, 2002), leading businesses to move to them. However, their rapid growth has been accompanied by increased economic inequality, and sometimes exploitative conditions for workers, including women workers, and also environmental damage, especially in state-managed zones (FIAS, 2008). Several economically successful Zones, such as Hong Kong’s Administrative Region, have been historical accidents. But today’s growing trend comes from deliberate efforts.

To date, no Special Economic Zone floats, although various kinds of maritime Zones, located in coasts and focused on marine businesses, exist. They exist in the Philippines (Reyes, 2013), Korea (Song, 2015), Korea and China (Sun, 2004), Korea and Japan (Valencia, 1989), Nagasaki and Zoushan (Ahn and Lee, 2017). The closest example of a floating Special Economic Zone was Dejima, an artificial island on reclaimed land in Japan. From 1641 to 1852, Dejima was the only place where Japan traded with outsiders, the Dutch, during a period where Japan isolated itself from the rest of the world (Serlet, 2017). This island was able to do this because it had spatial and legal extraterritoriality. That is, it was physically and

legally outside Japan while being part of it. Dejima, however, is no longer used for trade. This case study describes the first modern attempt to make an artificial floating island with legal extraterritoriality within a nation. The Floating Island Project's SeaZone would resemble traditional Special Economic Zones in that it would offer a regulatory framework for taxes, customs and labour. Nevertheless, because their primary conceptual origin is in 'seasteads', the idea is that SeaZones focus less on economics and more on governance.

The other source of SeaZone's inspiration, 'seasteads', focuses on establishing self-governed communities while floating on the sea. The term seastead first appeared on a report by the Stratton Group (1969:72), a commission created through an Act of the U.S. Congress (Christie, 2007). Christie (2007) narrates how the term appeared: "To encourage private entrepreneurial efforts in the coastal seas, the (Stratton) Commission even recommended that states develop leasing procedures to permit nonextractive seabed activities and proposed a system of "seasteads," analogising offshore development to frontier development under the Homestead Act of 1862". However, the concept of seasteads, as applied it in this thesis, arose in the work of foundational publications associated with The Seasteading Institute. Authors associated with the Institute, Friedman and Taylor (2010:223), describe the practice of seasteading as: "the establishment of permanent, autonomous communities in the ocean". The Oxford Dictionary (2017a, 2017b), which introduced 'seasteading' as a term in its repository in 2017, defined seasteading as: "The practice of establishing permanent settlements on structures located in areas of the sea outside the jurisdiction of any country". Blue Frontiers, the company leading the Floating Island, explains seasteads in the following terms:

a floating human habitation, designed to remain in the sea indefinitely. Seasteads' design is mobile so they can be easily moved and reconfigured in relation to other seasteads. This allows for the formation, reformation, and dissolution of networks, neighbourhoods, cities, and eventually nation-states in international waters.

(Blue Frontiers, 2018e9)

Some authors, before the creation of The Seasteading Institute in 2008, connected seasteads to technical aspects of living self-sufficiently at sea. These include floatation, energy and food (Gramlich, 1998) or sailing and inhabiting a boat (Neumeyer, 1981; FitzGerald, 2006). In contrast, seasteading, as the form of governance that inspired SeaZones and, as The Seasteading Institute envisions it, involves creating offshore, floating human settlements with alternative forms of governance. Seasteading, as a practice, is interested in experimenting with them in the deep seas.<sup>6</sup>

Seasteading and seasteads, as promoted by The Seasteading Institute, are based on the notion of voluntary ascription and critiques to nation-states. Mutabdzija and Borders (2011b:3) describe the seasteading movement's mission as follows: "the idea of creating permanent societies living at sea — societies outside the auspices of established governments". Foundational seasteading authors see seasteading

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<sup>6</sup> The seasteading literature is polarised and can be split into two groups: those who favour seasteading and those against it. Those in favour tend to be related, in the past or present, to The Seasteading Institute. I refer to them as "foundational seasteading authors" because many of them wrote the initial documents about seasteading. These authors include: Friedman, P., Gramlich, W., Taylor, B., Borders, M., Mutabdzija, D., Balloun, O., Hickman, S. and Marty, M. Contemporary, but still foundational authors, include Bell, T.W. and Quirk, J. Foundational authors tend to introduce or explain seasteading and related concepts. On the contrary, the rest of the literature, a much larger portion, responds to it, usually with critiques about seasteading's utopian character, negative aspects of its legal and spatial extraterritoriality, lifestyle of the 'super rich' and how seasteading embodies neocolonising practices. Few, such as Lalemandt-Moe (2018), stand in the middle by not being overly favourable nor critical.

as a route to break the monopoly of governance states possess (Friedman & Gramlich, 2009:21). Friedman and Gramlich argue that governance has stagnated and is reluctant to experiment (Friedman and Gramlich, 2009:20; Friedman and Taylor, 2011). They criticise and bring out the limitations of traditional politics and elections for achieving desired outcomes (Friedman, 2009). Furthermore, they denounce that political activism targets policy and legislation and, thus, does not allow for structural changes in governments (Friedman, 2009f Friedman & Taylor, 2011b). These authors also highlight that the large size of most nation-states does not allow satisfying the needs of individuals who desire more autonomy within these large systems (Friedman & Gramlich, 2009; Gramlich et al. 2002).<sup>7</sup> Likewise, they express that representative democracy does not meet the diversity of individual preferences (Taylor, 2010; Lee, 2010).<sup>8</sup> As a response, authors related to The Seasteading Institute seek more dynamic and varied forms of governance by placing new governments at sea, a place that some foundational authors consider unclaimed.

However, the main reason foundational seasteading authors argue that governance requires an aquatic medium relates to the idea of having “dynamic geography”. This means that houses, neighbourhoods or entire cities can move

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<sup>7</sup> As understood through the logics of anarcho-capitalism, the concepts of freedom and autonomy are fundamental to seasteading’s ultimate goal, although the short-term one is achieving formal autonomy, even if it is minimal. For Friedman & Gramlich (2009:204), freedom comes from creating alternatives to the nation-state governance model, while autonomy is “the power to set their own rules” (Friedman & Taylor, 2011:14) and that each person chooses their own social contract and government (Friedman & Gramlich, 2009: 204). Similarly, Mutabdzija and Borders, (2011b) clarify that autonomy is different from sovereignty. Autonomy equals self-governance and rule-making, whereas sovereignty involves, for instance, having a seat in the United Nations or issuing internationally recognised passports. A more radical version of seasteading suggests that individuals start their own countries (Taylor, 2014:136).

<sup>8</sup> It is interesting to note that these critiques to democracy in the foundational seasteading literature today is understood almost as a self-evident truth. Authors within the social complexity literature, such as Geyer and Rihani (2010), explain that complexity debunked the direct relation that people used to have about how democracy leads to desired outcomes and expected results.

around and change location, depending on residents' and citizens' satisfaction with the governments they choose (Friedman, 2002). If residents are happy, they stay. If they are unhappy, they float to governments with governance better suited to their tastes. This idea, while attractive, is not free from problems. For example, it is not straight-forward how would seasteads deal with cases of murder, child and animal abuse. Yet, foundational authors expect that dynamic geography would create better governance because the possibility for individuals, houses, neighbours and cities to detach from a government by moving even entire cities would lead these private governments to compete with each other. The authors state that dynamic geography will give governments incentives to perform better, like when companies compete. Foundational seasteading authors convey that this pressure over governments does not exist in land. They explain that neither cities nor countries relocate, making land governments less dynamic and prone to change. On top of this, the authors criticise that most land is under government control. In contrast, the ocean, as space yet to be claimed, according to Friedman & Taylor (2011), would entail lower entry barriers to the governance industry.

Previous seastead-like attempts to the Floating Island Project include residential ships such as Freedom Ship. This one was a project for a floating city for 100.000 people, which explored settling permanently in international waters. A Las Vegas real estate millionaire sought to carry out a more political attempt. He attempted to create a country on a human-made island in the Minerva reefs near Tonga. The Minerva Republic declared its own independence in 1972 and issued its own currency. However, Tongan officials invaded and uninstalled the flag (Strauss, 1984; Queenoftheisle, N.D.). The most popular, and arguably successful, seasteading antecedent was the Principality of Sealand (Ryan et al., 2006), a micronation on an abandoned oil rig in the coast of Suffolk, in the United Kingdom.

With its declared “sovereignty”, Sealand allowed itself to host Pirate Bay servers (Strauss, 1984). As a response, the United Kingdom extended its territorial waters to include Sealand. Similarly, the Atlantis Project consisted of creating an entire independent floating city called Oceania in the Caribbean. But a fire, a hurricane and a Haitian gunboat took down the built structures. New Utopia was also an undertaking for a floating city in the Caribbean that raised 500 million USD in funding. But the United States’ Securities and Exchange Commission labelled it a fraud. A more realistic approach was BlueSeed. It aimed to create a floating city in international waters near Silicon Valley in California for entrepreneurs and researchers who, otherwise, would need a visa to work in the United States. However, BlueSeed announced it was not moving forward in August 2017 when the Floating Island was announced. In the face the lack of success of previous seasteading attempts, the idea of a SeaZone is The Seasteading Institute’s attempt to more successfully create communities on the ocean, without ending in a state-led invasion. The idea of a SeaZone, therefore, originates in The Seasteading Institute (Bell, 2016). Instead of locating in international waters as seasteads, SeaZones take the Special Economic Zone model of being “within, but outside” a state. As such, they are located in the territorial waters of states and have a state’s backing.

It is important to note that there is no consensus within foundational authors about what is the individual unit of a seastead, whether it is an individual house, a platform or a cluster of buildings. For instance, in some publications, the notion of a seastead has been used to describe a group of seasteads. The following quote by The Seasteading Institute’s quote shows it (TSI, 2017b): “We generally refer to a seastead as a community living at sea and largely responsible for setting its own rules and culture”. In other documents, seasteading is used to describe a floating

city-state, such as in Mutabdzija & Borders (2011b). Similarly, Taylor (2010g) writes: “A group of seasteads governed by a common set of rules –regardless of whether there is a single body administering those rules or whether the group is spatially contiguous forms a seasteading polity”. Adding more confusion to the term, seasteading approaches focused on self-sufficiency, such as Gramlich’s (1998), attribute this name to individual houses or buildings independently of their political autonomy - calling their communities clusters.

Furthermore, in the literature, there is no agreement on how location differentiates between a seastead and a SeaZone, even though this is a fundamental distinction of both.<sup>9</sup> For example, the word seasteading is widely adopted by the community of seasteading supporters, regardless of whether the constructions are in international or territorial waters. This was the case with a floating house placed in February 2018, by a former volunteer of Blue Frontiers, in the Contiguous Zone of Thailand, fourteen miles away from shore (Ocean-Builders, 2019). This area is Thailand’s jurisdiction and counts as territorial waters, not international. Yet, the manufacturer and inhabitants of the floating home, Ocean Builders and Chad Elwatoski, as well as the seasteading Facebook community, referred to it as a seastead (TSI, 2019). The Thai navy strongly responded to this.

Because of the lack of differentiation of among the terms, it is common to find SeaZone and seastead being used almost interchangeably. Even Blue Frontiers,

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<sup>9</sup> The delimitation of the ocean in national and international waters depends on their proximity to shore. Territorial waters, according to the United Nations Convention on the Law of the Sea (UNCLOS, 1982: Art. 2-32), include waters from the nation's baseline to 12 nautical miles. In territorial waters, states have full sovereignty over the ground, subsoil, the maritime area and aerospace. Following the territorial waters, there is the contiguous zone. It extends 24 nautical miles. In the contiguous zone, nation-states still have jurisdiction over customs, immigration and fiscal regulations. After the contiguous zone up to 200 nautical miles is the Exclusive Economic Zone (UNCLOS, 1982: article 57). After 200 nautical miles, international waters begin. In countries where the coral reef encloses the ocean and create what is called a lagoon, inland waters go from the low water mark to the reef (Lallemant-Moe, 2017b).



the company building the Floating Island Project, referred to floating platforms of SeaZones as seasteads. They explained them in the following words: “SeaZones can be home to numerous seasteads, offering groups voluntary opportunities to implement novel or untried ideas” (Blue Frontiers, 2018e:11). Other authors, such as Bell (2017b) do classify seasteads depending on their location in inland waters, territorial waters or international waters, although he argues that SeaZones are like host-nation seasteads. While this thesis is not a foundational seasteading text, I claim that seasteads are not single buildings in international waters, but a cluster of them is. This is because the goal of seasteading is to create communities in the high seas and a community is not formed by one single family. Moreover, one single home does not allow for dynamic geography. Using the term *seastead* independently of its location in territorial or international waters and whether it refers to a single floating home or an entire community, both with different implications, causes confusion. This confusion is sometimes repeated by news.

For clarity purposes, I employ the term SeaZones to refer exclusively to floating Special Economic Zones in territorial waters of nations. Likewise, I use the term SeaZone to talk about the regulatory framework of the Project – once it was regulated by the SeaZone Acts. I employ Island or Floating Island when I mean the floating building(s) in the area covered by the SeaZone. And I adopt the term Floating Island Project or simply Project to speak of the endeavour overall. When I write about the plot of water and land where the SeaZone framework would apply, I make sure I name the lagoon of Atimaono or its municipality. This language differentiation distinguishes between floating communities in territorial and international waters. It additionally suggests that the legal frameworks and governance implications surrounding SeaZones and seasteads are different, even

though seasteads and SeaZones are prone to similar rules and problems, as this thesis later shows.

One of the key problems shared by seasteads and SeaZones that surfaced in this case study is their image issues. This is because the terms are regularly (almost always) mixed up by media and because both tend to be associated with a kind of anarchism which sees in capitalism a replacement for most governance functions which are today provided by states: anarcho-capitalism (Steinberg et al., 2012). Anarcho-capitalism is a free market economy that advocates for private provision of governance services (Friedman, 1989). This political economy is similar to other libertarian theories, such as minarchism. Minarchist authors, such as Nozick (1974), advocate for reducing the role of the state to a minimal expression. The idea is to only leave the fundamental parts (courts, military, and police) so it can protect free-market policies. Nonetheless, anarcho-capitalism, as it interests this thesis and case study, goes one step further. Its goal is replacing the state with an ecosystem of private governments competing in a governance market. These services would include infrastructure, dispute resolution, security, courts and legal systems (Friedman, 1989). Through market solutions to governance, anarcho-capitalism seeks to decentralise state power.<sup>10</sup>

Indeed, for foundational seasteading authors, seasteads seem to be a way to achieve anarcho-capitalism, similar to that portrayed in David Friedman's (1989) *Machinery of Freedom* (Friedman, 2009). D. Friedman is one of the main authors of the type of anarcho-capitalism which seeks to replace public services with

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<sup>10</sup> The terms "anarcho-capitalism", "libertarianism", "minarchism" and "libertarian anarchy" have differences among them, although they are sometimes used interchangeably. In this thesis, I use the term "anarcho-capitalism", even though the most widely used term in the seasteading community is libertarianism. I use this term because anarcho-capitalism talks about a market for governance, while libertarianism not always. Yet, this anarchism of some forms of libertarianism is implicit in the anarchy of anarcho-capitalism.

private service providers. The author claims that voluntary institutions “should replace governments in its most essential functions” (Friedman, 1989:76). This means that societies would organise by individuals voluntarily deciding to opt-in in a government, instead of being born under a predetermined one. Anarcho-Capitalism relates quite directly to SeaZones.

Patri Friedman, a co-founder of The Seasteading Institute, who is the son of David Friedman, is also the grandson of Rose and Milton Friedman. M. Friedman won the 1976 Nobel Memorial Prize in Economics and was famous for his ideas on free markets and capitalism. Thus, The Seasteading Institute, the Californian non-profit that since 2008 has led the seasteading movement, is the result of a three-generation lineage of libertarian thinkers.<sup>11</sup> Besides this three generations lineage, a well-known libertarian billionaire and investor, Peter Thiel, co-founded The Seasteading Institute with P. Friedman. He also donated 1.7 million USD over several years to The Seasteading Institute (Hencken, 2014), although his funding ceased three years before the Memorandum of Understanding with French Polynesia.

Another problem in SeaZones’ and seasteads’ ‘baggage’ relates to how these aquatic forms of governance see the oceans as unclaimed places to colonise. This has led most academic texts and news articles discussing seasteads and SeaZones to focus on the narrative of Silicon Valley millionaires seeking to avoid

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<sup>11</sup> That said, foundational seasteading authors, such as Friedman and Gramlich (2009:7) and Friedman (2010) clarify that although this is the political origin of seasteads, long-term seasteading is politically agnostic. Similarly, The Seasteading Institute defines its vision as meta-political and Non-ideological (TSI, 2017b). The Institute sees in seasteading a platform for trying different governance options, from universal basic income to free market. Likewise, Blue Frontiers in its website defines itself as ideologically neutral, explaining that it is up to costumers to try what they think works best for them. In this regards, Bell (2017:58) writes that nobody but seasteaders should decide for all seasteaders what model of governance will work best.

taxes in a luxurious floating island. For instance, Miéville (2017:18), who describes seasteading as a neoliberal evil pirate utopia, writes: “the libertarian seasteaders are a joke. The pitiful, incoherent and cowardly utopia they pine for is a spoilt child’s autarky, an imperialism of outsourcing, a very petty fascism played as maritime farce -Pinochet of Penzance”. Other critics see it as a utopian form of urbanism (Lynch, 2017), neoliberal suburbanism and cyberlibertarian utopianism (Peck, 2011:912). Similarly, Simpson (2016b) writes: “seasteading is part of a digital countercultural movement driven by techno-libertarianism -a libertarian political approach to technology-, and anarcho-capitalism”. Similarly, Coburn (2014), associates seasteads to charter cities, a form of governance that, as originally depicted by Romer (2009, 2010), could not be closer to neocolonialism. This is because a foreign government or entity would be in charge of managing a city in a ‘third world country’. Coburn calls both, charter cities and seasteads, laissez-faire utopias trying to take advantage of the political imaginary of the developing world. The critiques and the negative image of seasteading are important for this thesis because they provide problems underpinning SeaZones that surfaced in the empirical observations.

However, the deepest problem with SeaZones in relation to this issue is that they are rooted in the notion of colonising the ocean. Colonisation is, indeed, a notion that runs throughout the thesis. It is present in three main ways: the colonisation of a lagoon; French Polynesia’s colonisation; and critiques of Polynesians to creating a foreign enclave on their ocean. This last one arises from the origin of SeaZones in The Seasteading Institute. Mentioning colonisation is relevant for this case study because complex systems are history-dependent. I unpack this idea in the empirical chapters.

Colonising and seasteading are conceptually related because another way foundational authors refer to seasteading is as “homesteading the high seas” (Friedman and Taylor, 2011b:13). The word seasteading is, indeed, a combination of sea and *homesteading* (Oxford, 2017b). The notion of homesteading originates in Locke’s (2013)’s 1689’s treaties, for whom land ownership arises from appropriation by working the land. While Locke’s ideas did not necessarily entail colonisation nor homesteading as we know it today, the term homesteading is historically loaded. Tully (2017) explains that Locke’s homesteading property rights surfaced in the process of European colonisation of North America. He recalls that the displacement of indigenous from North America happened with a series of federal acts called the Homesteading Acts. In 1862, these Acts allowed European settlers to appropriate and become owners of 80 million acres of Native American lands (LOC, nd). Andrews (1999:80) explains that this historical event became responsible for displacing millions of Native Americans from their territories, and for reducing their populations from 15 million to less than 250.000. The Homesteading Acts built on the premise that property ownership should be linked to the people labouring upon it (Schlatter, 1951). As McMaken (2017) explains, Native Americans owned land in common, by sharing it. Thus, these lands were wrongly identified as lacking property rights. Consequently, Native Americans were forced to move to reservations, away from the ancestral territories where they lived. The etymological origin of seasteading has led Peck (2011:912) to say that seasteading repeats the lore of the “wildly unregulated west”. But the relation between homesteading and seasteads is not only etymological.

Foundational seasteading publications (Friedman & Gramlich, 2009; Balloun, 2012; Friedman & Taylor, 2010; 2011) often romanticise European settling in North America. The explication of seasteading by The Seasteading Institute (2017b)

reflects this fact: “The term comes from homesteading, which means making a home for oneself in new, uninhabited places. It generally has associations with self-sufficiency and a frontier lifestyle. Seasteading is reminiscent of that idea, but at sea.” Another example of this romanticisation is Friedman & Taylor (2011b:6), when they write that: “Colonial America was a very competitive and innovative political culture”. Besides the processes of settling/colonisation, in the seasteading literature colonisers are, too, romanticised.

The foundational seasteading literature sees the first colonisers of the homesteading period as visionaries who saw the Americas as an opportunity to create new political regimes where, in their view, there was none. Such exaltation appears in the foundational seasteading texts over and over. It explains why, when talking about homesteading, views centre on the entrepreneurial and freedom-seeking spirit of European settlers, who wanted to dissociate from the old aristocracy. However, there is no recognition of the oppression and displacement that homesteading entailed for Native Americans - nor on the fact that not all homesteaders chose that lifestyle. Moreover, as Veracini (2011) explains, there is a difference between colonisers and settlers. Colonisers come with imbalanced power and displacement, whereas settling does not necessarily entail unequal power relations of domination.

Yet, for Veracini (2015:80), what Quiggin (2010) calls the avoidance of mentioning Native Americans in the nineteenth century history of the United States, is a “settler colonial reflex”. The author used this same terms to refer to the vision of the seasteading movement (Veracini, 2016). A previous director of development of The Seasteading Institute (2009) attempted to address a related critique by stating: “A bunch of rich white guys? So were the founding fathers – and their success

brought freedom to everyone”. Other examples surface in other text extracts, such as: “While the American experiment turned out for the best” (Friedan and Taylor, 2011:13). Another example is Mutabdzija and Borders (2011:23): “Under a homesteading doctrine, we have a mechanism through which formerly unowned resources can come to be privately owned. The settling of the American West is instructive”. This theoretical relation to North America’s colonisation led Wachs (2017) to write that seasteading is a “Libertarian-influenced crusade that borrows from the language of the American frontier to frame its freewheeling settlement at sea.” Wachs (2017) argues that the comparison between seasteaders and American frontiersmen invokes the European notion of a tabula rasa used to justify the Native American genocide.

What is worse, the language used in several foundational texts from where SeaZones originate perpetuate today’s differences between the Global North and the Global South. For instance: Friedman & Taylor write:

“If we can make seasteading work, we can transform 70% of the Earth’s surface into a laboratory for experimenting with alternative social systems. If we buy an island or part of a third-world, all we would have would be one piece of dirt. While we believe that having more sovereign pieces of dirt is a good thing, our vision is much bigger than that of just creating a single new country”.

(Friedman and Gramlich, 2009:295)

Another example taken from the initial key seasteading book reads: “We think seasteading will be in reach of many Americans at the beginning, but not the third world. This does not mean that our movement will not help poorer people”

(Friedman and Gramlich, 2009:135). In another part, Friedman and Gramlich (2009:290) write: “Sure, oceanfront property in the third world is cheaper and prettier, but there is a reason that most people who can afford to live in the first world instead”. Similarly, Friedman & Gramlich (2009:294) quote in their online book an email by a supporter: “For the investment required to build 100 acres of floating condo, you could take over three Third World hellholes, complete with workforce and low-quality army”. Similar examples are plentiful. One is by The Seasteading Institute (2014): “The ideal country would be stable, non-corrupt, small, and relatively poor by first world standards. It would also have to be open to foreign investment, the values of freedom, and the leveraging of its sovereignty”. The sense of entitlement and appropriation does not end there. Friedman and Gramlich write:

Land doesn't easily scale, and so doesn't fit our incremental approach. It's pretty clear how to build the first percent of a 100 acre floating condo - you build a 1 acre floating condo. But how do you take over 1/20th of a third world country?

(Friedman and Gramlich, 2009:295)

In sum, SeaZones take their legal aspect from Special Economic Zones and the spatial, political and entitlement one from seasteads. Specifically, SeaZones adopt from Special Economic Zones the notion of having a special regulatory framework, which enables new regulations, or exceptions, distinct from the country where they physically, and legally, nest. In this thesis, I call this process of creating new or exceptional regulations “untangling”. This is because there are multiple regulations by institutions which need to be untied. From seasteads, SeaZones take the idea of building privately governed, politically autonomous communities floating on the



ocean. The last important concept to briefly describe in this second part of the theoretical framework is extraterritoriality.

Extraterritoriality is the name given to spaces outside the jurisdictions of countries. The concept applies for places such as Antarctica (SAT, 1959), CERN (2004), the Moon (UNOOSA, 1979; Virgilu, 2009), outer space (UNOOSA, 1979) and the United Nations building (UN, 1947). Important for this case study, international waters are an extraterritory too. While extraterritoriality is not among the features of complex governance central to this thesis's concerns (nested institutions, multilevel stakeholders and waves), it does help understand that the Project sought to nest within French Polynesia, and the relation between the Project's special regulatory framework and the aquatic physical space where it would locate.

## **2.6. Conclusion**

This theoretical and conceptual framework presented the key features of complex governance that run throughout the thesis. It discussed the complex governance concept and field. It additionally traced the origin of SeaZones in Special Economic Zones and in seasteads and discussed key ideas about them that help set up and better understand the case study. The next chapter introduces the case study.

## **CHAPTER 3. CASE STUDY: THE FLOATING ISLAND PROJECT IN FRENCH POLYNESIA**

In this chapter, I introduce the case study entitled Floating Island Project in French Polynesia. In the first part of this chapter, I explain key points about the Project, its origin and the motivations of stakeholders involved in its creation. I examine reasons for creating floating architecture and provide a chronology of the Floating Island. The chapter covers the Project's progression since its 2017 launch up unto to the events which led to its fading in 2018. Likewise, I describe the cryptographic token, which would later be proposed as part of the governance of the Floating Island.

The Floating Island Project was an attempt to set up a privately governed SeaZone in the territorial waters of French Polynesia. The SeaZone's special regulatory framework, condensed in the Polynesian Assembly's 'SeaZone Acts', would allow the Project to have different labour, customs, and residence regulations than the rest of Polynesia. Overall, the Island would accommodate around 300 people in an area of 75.000 m<sup>2</sup> (7.5 Hectares, 785.000m). It would have around 12 platforms between 14 to 50 square meters each (EMSI, 2017). The platforms would occupy approximately 0.1% to 10% of the total project area. In the short-term, the Floating Island would be a mixed-use real estate development, powered by renewable energy (Blue Frontiers, 2017e). However, the long-term mission underpinning the Floating Island was to be a step towards seasteads.

For years, The Seasteading Institute had tried to find a nation willing to host a politically autonomous floating community. They had hoped to locate a project

within 12 nautical miles of a host nation. In exchange, the country was to obtain supposed technology transfer and 'know-how'; I explain what type below. After several years of searching for a host nation, on January 13th 2017, The Seasteading Institute and the French Polynesian government signed a Memorandum of Understanding (2017) in San Francisco, California. Minister Jean-Francois Bouissou signed on behalf of the French Polynesian government. As we will see, Bouissou was an important person in this case study, from the Floating Island Project's start to finish. Shortly after, members of the Institute and the French Polynesian governmental liaison, Marc Collins Chen, formally registered Blue Frontiers in Singapore.<sup>12</sup> The company Blue Frontiers, which I sometimes refer to as 'the Company', undertook the Project since.

The main motivation of the Polynesian government to sign the Memorandum of Understanding was to bring new technologies to Polynesia to prepare for sea-level rise (MOU, 2017; TSI, nd-a). Sea-levels are of great concern today, with some estimates predicting a rise from 65cm (Weeman & Lynch, 2018) to 1 meter of water elevation (NRC, 2012) by the end of the century in various places. Because of sea-level rise, Storlazzi et al. (2018) claim that the majority of flat islands around the world, including the Pacific, will be uninhabitable before the end of the century. According to Strauss and Kulp (2017), sea-level rise projections mean that flooding will reach at least one quarter of the coastal areas in the region. But Pacific islands and Small Island States are the places that are expected to suffer the most from sea-level rise (Lister & Muk-Pavic, 2015:2), despite their relatively insignificant contribution to climate change (Polynesians-Leaders-Group, 2015).

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<sup>12</sup> Six male founders registered the company Blue Frontiers in Singapore: the former Executive Director of The Seasteading Institute, Randy Hencken; the liaison between the French Polynesian government and The Seasteading Institute, Marc Collins; Seavangelist and President of The Seasteading Institute, Joe Quirk; Bielorussian businessman, Egor Rijykov; seasteading ambassador, Nicolas Germineau; and a Singaporean local officer, Peng Hock James Soon (SEC, 2017).

The reason the situation is expected to be worse for many Pacific islands is because many Pacific islands, called atolls, have no mountains and are almost flat. Caron and Henry (2004) stress that with sea-level rise, many fear that these flat Pacific islands will be completely submerged. This makes French Polynesia part of a highly vulnerable group of Pacific countries (SPREP, 2016), which in the future is expected to experience a significant risk of refugees due to climate displacement (Wong et al., 2014:364). To prepare for this imminent threat, governments in the Pacific, such as Kiribati's, are looking to sustainable floating islands for replacing lost land (Kiribati, 2012). As Bryant-Tokalau (2018:28) recalls, places such as the Solomon Islands and Micronesia, also in the Pacific, islanders have long considered using artificial islands to recover sovereignty lost to a submerged territory.

Because of the threat of sea-level rising, before the Memorandum of Understanding, the French Polynesian government had signed the Taputapuatea P.A.C.T. (Polynesian Leaders Group, 2015). This is a document where Pacific leaders condensed their concerns towards the vulnerability of their territories when confronting sea-level rise. The leaders called for action for becoming global showcases in sustainable development. This is why the French Polynesian government saw the Floating Island Project as an opportunity for French Polynesia. The Project would be a way to bring innovative sustainable technologies with low environmental impact to this Pacific nation (MOU, 2017:7). Despite the potential uses of floating architecture to adapt to sea-level rise, some scholars viewed this narrative in the Project with scepticism.

For example, Lallemand-Moe (2017a, 2017b) maintained that artificial islands are not a legal solution for disappearing and submerging nations, given that artificial islands do not hold the same legal status as natural islands. As the United Nations Convention of the Law of the Sea (UNCLOS, 1982: Art. 60) states, artificial islands do not affect the delimitation of the territorial sea nor the size of the Exclusive Economic Zone of states. This is because replacing natural islands with artificial ones would not prevent the diminution of jurisdictions of maritime areas attached to lost land (Lallemand-Moe, 2017a). Given such a mismatch, authors such as Ranghanatan (2019) argue that the use of sea-level rise in the Floating Island Project was essentially rhetorical. Ranghanatan stated the Project embodied a tone-down version of its original political strain. She stated the Project downplayed the libertarian underpinnings of seasteading, including its explicit desire to increase freedom through the creation of dynamic geography, where seasteaders could 'move' between different seasteads at will. Similarly, Feichtner (2019) stated that resorting to the ocean's extraterritoriality is a way for small island states, including French Polynesia, to seek a place internationally. Feichtner criticised that these strategies do not translate into direct, tangible benefits for the population, even if this is the idea that governments communicate to citizens.

Moreover, as Bryant-Tokalau (2018) explains, this specific, modern approach for building artificial islands often ignores ancient and local knowledge. This is an issue that plays out in important ways in the case study. In the Floating Island, the idealisation of seasteading, comprising creating new floating territories to move to, disregarded what Stratford et al. (2013:72) describe as the emotional bond that Polynesian people have to their territories and the Fenua. Fenua is a concept of Polynesia which "encompasses both the archipelago and the cultural practices in it" (Stratford et al. 2013:72). Stratford et al. (2013:72) explain further that the

interpretation of Fenua means that Polynesians see themselves as part of the islands. This is a cosmological relation with the ocean, in Polynesian 'Moana', which Stratford et al. note that other cultures cannot easily comprehend. Denning (2007:288) explains this cosmological bond by noting that Polynesians, traditionally a seafaring culture, are sea people. The emotional bond to their islands was an issue which surfaced in the Project's fading, specifically in critiques by Polynesians which mentioned the Fenua.

It is important to know that, as its name suggests, the Floating Island would float and would not have foundations that make contact with the seabed. This is one of the advantages of floating architecture (De Graaf, 2012). Another one is that buildings can be built sustainably from scratch, with less waste and pollution (Sailsbury, 2003). Construction can take place somewhere else, while assemblage can be on site. This arguably makes projects very quick to construct. Most importantly, floating buildings can also be easily removed (Kirimtat et al., 2019). This makes floating architecture more sustainable than the more common practice of reclaiming land (Wang and Tai, 2011). Reclamation usually entails dumping the sand on the ocean and destroying the marine life underneath. In contrast, floating buildings keep the marine environment underneath more intact. They can even create artificial reefs, providing food and shelter to marine animals (Blue21, 2017:59; Stopnitzky, 2011; Delta-Sync, 2013). Since these buildings do not necessarily need to connect to land grids, they can innovate with renewable technologies and closed-loop cycles for energy and water (Blue Frontiers, 2017e).

The Floating Island, for example, proposed desalinising its own water, running on solar power, using rainwater and having closed-loop utility cycles and composting toilets (Blue Frontiers, 2018c). This last idea means that water would be recycled

and used several times. These type of sustainable maritime technologies relating to the blue economy were a second motivation of the government, besides sea-level rise adaptation. The blue economy is becoming stronger every year, and its growth is a known topic in French Polynesia. Polynesia even has a Blue Economy Minister. During the Project's planning, it was Teva Rotfritsch, also vice-president of French Polynesia (La Présidence, nd). This minister/vice-president, opened the conference which launched the Floating Island Project in Tahiti. Below I mention specific parts of presentations of this conference to introduce relevant ideas surrounding the "partnership" between The Seasteading Institute and Blue Frontiers with French Polynesia.

First, the conference was organised in Tahiti in May 2017 (TSI, n.d.-b). Blue Frontiers co-founder, Randy Hencken (2017), characterised it as a space for the two families, Polynesians and seasteaders, to meet. Hencken (2017) also talked about how the ten principles of the festival Burning Man could inspire the culture of the Floating Island Project.<sup>13</sup> This point is important, insofar it explains reflects an idea of the demographics targeted for inhabiting the Project. The idea of a foreign culture and foreigners locating in Polynesian waters would be key in the empirical chapters'. Another co-founder, Joe Quirk, President of The Seasteading Institute, to convey that something floating with different regulations was not unknown for Polynesians, described French Polynesia's most famous cruise ship:

The Paul Gauguin sails between Indonesia, Fiji and French Polynesia.

It flies the flag of the Bahamas. Its owners are registered in the Cayman

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<sup>13</sup> The Burning Man Festival is a one week festival in the Nevada Desert in the United States, which says to be based on the principles of radical inclusion, radical self-reliance, radical self-expression, civic responsibility, gifting, decomodification, leaving no trace, immediacy, participation and communal effort. During the festival, a temporary city with over 70.000 people is erected with thousands of artistic expressions.

Islands and Delaware. The crew is hired from all over the world. The passengers pay in U.S. currency. And legal disagreements between the passengers and the ship owners are settled in French Polynesia's jurisdiction. (Quirk, 2017b).

In the conference presentations, the main public critique came from Vallat (2017), Chairman of the European Network of Maritime Clusters. This is the second idea I want to note about the conference. Vallat said that the Project could be unviable because the most crucial part was getting the acceptance of the community. He also voiced that the culture from Polynesia was not the same as California. After the conference, the Project focused on complying with the Memorandum of Understanding.

Ultimately, the Floating Island Project followed a list of points that were 'signed and sealed' in the Memorandum of Understanding. Although this document was non-binding, it stated that, to move forward with the Project, The Seasteading Institute needed to submit legal, environmental, economic and location studies to the Polynesian Government. The Memorandum stated these studies should align with Polynesia's sustainability vision and concerns. Furthermore, the Project should avoid negative effects on the Polynesian ecosystem. Additionally, the Project could not extract mineral nor water resources from the lagoon. Accordingly, the Project's Environmental Impact Analysis (Blue21, 2017) explored potential environmental impacts of the Floating Island. The Dutch-based firm Blue21, who had been working with The Seasteading Institute for six years as DeltaSync, conducted the Environmental Impact Analysis. To comply with Polynesia's environmental goals, they designed a sustainability framework with an environmental position they called 'environmentally restorative' (Blue21, 2017). The idea was to go beyond



sustainability to restoration (Roeffen, 2017). This is because Blue21 presented how floating architecture could have a positive impact on the marine environment. This sustainability vision of the Project is important for the empirical chapters, insofar as it presents an opposite view to what critiques to the Project voiced. While it is not the focus here to discuss this, Blue21's restoration perspective also aligns with Puig de la Bellacasa's framework of notion of care for non-humans, as I explain somewhere else in the thesis.

The Project's location study analysed five potential lagoons in Tahiti, besides the one in which I focus in this thesis (Blue Frontiers and Blue21, 2017), called Atimaono. Atimaono is in the Southern coast of Tahiti, the most populated island in French Polynesia. It is home to the capital and has the largest electoral districts. This was important for the Project, as I show in Chapter Seven. It is important to note that Atimaono was never confirmed as the final location. However, key materials of the Project, such as a nice video published on Christmas Eve (Blue Frontiers, 2017b), placed the Floating Island in this lagoon.

The Memorandum of Understanding also stated that the Project's legal study (GB2A, 2017; hereafter referred to as 'the legal study') had to include The Seasteading Institute's expectations for modifying or creating new regulations for the SeaZone. This would include regulations on a number of issues, namely: governance, labour, custom duties, international relations, flag and registration, entry and residence permits, among others (MOU, 2017). The proposed regulations mentioned in the legal study would likely be the foundations for the Project's regulations and the SeaZone Acts. This legal study is the starting point for the discussions of institutions and nestedness in Chapter Five. Eventually, The Seasteading Institute or Blue Frontiers, with or without the French Polynesian

Assembly, would draft a bill for the regulatory framework of this special jurisdiction. With a granted regulatory framework, the Project expected to attract “blue economy” businesses to the Island as well as internet and blockchain start-ups.

Digital technologies were important for the Project since its beginning. The Project had its own blockchain cryptocurrency or token called Varyon. Varyon would be used to govern the Floating Island and SeaZone, as I explain later in Chapter Six. Besides being a means to govern, Varyon would also be exchangeable for time and residences on the Island (Blue Frontiers, 2018e). To visit, individuals had to hold Varyon on a smart wallet.<sup>14</sup> Additionally, Varyon was how the Project tried to fund itself through what is known as an Initial Coin Offering (ICO). But several factors affected this attempt to fund the Project. Nevertheless, one additional document which was important for the Project and the empirical chapters of this thesis is the Varyon white paper – hereafter referred to as ‘purchasing document’.<sup>15</sup>

Importantly, in the end, in spite of all the optimism in the early days of The Floating Island Project, the Project did not come to fruition. There were several events throughout the ‘life course’ of the Project that were pivotal in its fading. Like a dying candle, the possibility of the Floating Island materialising slowly faded away. As is argued in the later chapters of this thesis, there were a number of setbacks that arguably came from the project’s ‘initial conditions’ – those conditions which have an inextricable influence in the shame of the Project’s trajectory.

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<sup>14</sup> A smart wallet is a phone application that works as a digital wallet to store cryptocurrencies.

<sup>15</sup> The investment document of the Project is called a white paper because this is the name that in the cryptocurrencies space is given to a token’s initial documentation. However, I will use the traditional term ‘purchasing document’, which applies to the specific type of token Varyon would be, to avoid confusion.

The lack of fundraising success was one of these events. It also lost the three female Polynesians who worked for it. Another key aspect was that the Project slowly stopped having government support. Moreover, it suffered significant opposition by the local community and a founder created a competing company. Indeed, three months prior to the elections, the Project was the focus of online and physical protests and a petition in Tahiti. The Floating Island became politicised and found itself in the middle of a dispute between the president's party and the opposition. For many Polynesians, the Project not going through was a success. For the project's team, it was not. The following figure sums up the most important moments in the Floating Island Project's timeline. I discuss them throughout the empirical chapters.



Figure 1. Timeline of the Floating Island Project

## **CHAPTER 4. METHODOLOGY**

### ***4.1. Introduction***

In this chapter, I describe the methodological approach used to address the research questions. The chapter aims to provide an overview of how this research was conducted, to increase the internal and external validity of the findings as they are presented in the empirical chapters that follow. To do this, I will explain the qualitative methods used to gather the empirical data and how the data was analysed and interpreted. The thesis used two main research methods, participatory observation and online and offline document analysis. In what follows, I explain key parts of the research process, including the development of my role in the Floating Island Project, from an external observant to a participant/observer. I discuss how these roles played a part in the research, and I reflect on the advantages and challenges of my methodological approach and dual roles. Additionally, I explain ethical issues of the research and of my two roles.

### ***4.2. Methodology***

To conduct this research, I drew from ethnographic methods. That is to say, whilst I would not claim to have conducted a fully in-depth ethnography in its purest of forms, I have drawn from its key tenets as a way of driving the research design and how the research proceeded, particularly in my use of participant-observation. Ethnography, as Herbert (2000) puts it, is a broad methodology which usually entails participatory observation; a method in which the researcher immerses or spends a large amount of time with a social group in order to understand ties and cultural relations. This was certainly the case in this research where I ended up being part of The Floating Island Project itself, in meetings, conferences, workshops, etc. – more on this below. My use of participant observation allowed

me to do what Herbert describes when he argues that this style of research enables to untangle the intentions and actions of people and events surrounding them. As Herbert explains, ethnographies often focus on what people say as well as what they do, thereby allowing researchers to see discrepancies between thought and action. Indeed, to conduct this research, I paid attention to what was said, not said as well as what people and the Project did throughout the fieldwork.

Hammersley and Atkinson provide an overarching description of ethnography, which they define them as a set of methods that involve the following activities:

The ethnographer participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, asking questions - in fact, collecting whatever data are available to throw light on the issues that are the focus of the research.

(Hammersley and Atkinson 1995:1)

Hammersley and Atkinson add that ethnographies consist of seeing and describing the world as it is. Unlike in controlled experiments or positivist science, the idea of ethnographies is to understand how people construct their social world (Hammersley and Atkinson, 1995:11). Importantly, ethnographic approaches also acknowledge that researchers are socio-historically situated (Hammersley and Atkinson, 1995) and that this permeates the interpretation of what they observe (Hammersley and Atkinson, 1995:17). This is partly explained by the list of activities provided by Gray (2014) which are part of ethnographic research, which include selecting the field, gaining access, gaining informed consent, becoming invisible, building rapport, and getting out. This research involved all of these

activities, to a greater or lesser extent, depending on which stage of the research process. I am not the exception to this.

My selection of the case study was due to my personal support and research interest in alternative forms of governance. The reason I was able to enter the Project and gain informed consent was because I was able to pay the 2,500 USD trip to Tahiti that would introduce the Project leaders and because I happened to be a well-educated woman from the Global South, doing her PhD when the Project kicked off. Perhaps I became invisible after a while because all those reasons combined: being a woman from the Global South and PhD student who, despite being a researcher, is interested and supportive of alternative forms of governance. Throughout that process, I, also, built rapport, first with the Project members and, as the Project advanced and I was able to see several its flaws, I built rapport with Polynesians. These activities and my role have shaped the findings accordingly.

### **Doing Ethnography in a Complex Adaptive System**

The research design and data collection methods embodied Agar's description of ethnographic methods in complex social systems. For Agar (2004:24), ethnography offers the possibility to study complex adaptive systems because it is a methodology that itself is a complex adaptive system. Agar argues that ethnography is the ideal methodology to study social systems with many parts which do not fit within Kuhn's classical science. The author writes:

Ethnographic research is, in and of itself, a complex adaptive system. The process involves an ethnographer, at least one, and different people that he/she spends time with, and in this day and age lots of information from other sources as well. The process begins in

comparative disorder, shifts and changes through time, and typically winds up with conclusions that were not expected at the beginning.

(Agar, 2004:18)

Agar adds that ethnographies allow one to see connections in nonlinear complex systems by finding patterns in the data, as opposed to isolate and then measure previously known things. Other authors, such as Freeman and Cameron (2008:2) and Salminen (2015) agree with this idea that the study of complex dynamic systems requires methodologies that acknowledge their complex nature. For ethnographers, this means acknowledging and accepting the ethnographic process as an open, dynamic complex system too.

To illustrate his argument, Agar explains that the 'algorithmic complexity' of ethnographies is as complex as the thing studied. It is also larger than the algorithmic complexity of traditional social research. Moreover, in ethnographies, the algorithm is not a path, but an area. Agar calls this a 'fuzzy algorithm'. By that, he means that ethnographic methods emerge as the study is carried out. Methods, therefore, are creative responses to the ways in which the researcher adapts the research problem. Research then becomes a fractal exercise in the fitness landscape, Agar explains, where one rich point leads to another and to another. Because of their complex adaptive system nature, Agar highlights difficulties of systematically designing ethnographic research for complex systems. Especially at the beginning of the ethnography when everything is open-ended and the problem itself has not entirely revealed. I experienced this with this thesis. Both the thesis and the case study were exercises in nonlinearity, in at least three ways. First, the questions, the problem and the methods emerged iteratively after the research had begun. Second, the data was selected by identifying patterns, and



this final piece is very different from the one I had planned to write. And third, the argument emerged after the Project had faded away. It is because of this characteristic of ethnographic methods that the ideas I share here are also very different from the ones I had at the beginning of the research, which, without knowing better, put the Project in a better light.

This thesis also has elements of netnographies. Kozinets (2016) describes netnographies as research methodologies consisting of doing ethnography on the web. It usually takes place in online forums and communities. As we will see in further detail, as part of the research, I explored Facebook posts, Facebook groups and pages related to the case study. Salminen (2015) adds that netnographies are equally flexible and adaptive as ethnographies, in that they rely on participant-observer methods. However, it is worth noting that although this thesis uses data from Facebook, this is not a thesis in digital methods. Facebook was not included as an original data source in this thesis. It was only at the end that the platform became a hot space for French Polynesians to protest against the Floating Island and, therefore, it was included afterwards.

Intending to use a complex systems framework to understand various aspects of the Floating island, in this thesis, I recollect my findings of complex governance in the creation, governance and demise of the Floating Island Project. This entails looking at the Project's regulatory framework, but also key people and events that played a role in it. The following section describes my data collection as a participant/observer, which extended for a year and a half, from May 2017 to November 2018. During that period, I was immersed, online and physically, in the Floating Island Project.

### **4.3 .Data Collection Methods**

The data collection started in February 2017 and concluded in November 2018. However, I began participating in the Project in June, 2017. First, I describe the participant observation.

#### **4.3.1. Participant Observation**

After May 2017 and through most of the data collection process in the Floating Island Project, I had a dual role: I was a participant and an observer. Participant observation is a method that consists of the systematic observation of what is happening around the researcher while participating in a community (Guber 2001). Data collection in participant-observation is closely linked to the specific role of the researcher. Guber explains that, as an observant, the analysis of the data is based on the notes taken by the researcher. As a participant, the researcher, in a way, becomes part of the community. Authors such as Hammerley and Atkinson (1995) agree with Guber (2001:61) when she refers to an epistemological tension between these two roles. I certainly experienced such tension throughout the research between my role as a researcher (for my PhD) and participant (for the Floating Island Project). This is one of the challenges that I discuss in the Challenges section below.

Participant observation was a transversal data collection and crucial method for this research. The dual role enabled me to access the Project, gather and make sense of the document analysis and the data, holistically. More importantly, it helped me understand the Project in ways that I could have not had I only relied on document analysis as an outside observer. I was able to note how useful this method was after I became a participant of the Floating Island. Then, I realised that much of what was written about it in the media was questionable and often

incomplete. I expand on this issue in Chapter Seven, where I discuss ripples which contributed to the Project's fading.

I was able to participate in the Project and observe it from within by virtue of getting involved with the company leading the project, Blue Frontiers. This happened one year and a half into my PhD when I began volunteering for the Project. My role in the company then evolved from volunteer to staff, when I became the Project's podcast host and communicator. Therefore, for a significant portion of the data collection process, I had this dual role. I am not entirely sure when did this dual role ended because of the fading nature of the Project. My last activity for the Project was in June 2018. The following description of the evolution of my roles explains why I chose to pursue ethnographic methods of research. As the following paragraphs show, I found myself in a privileged position, as a researcher, after speaking at the Seasteading Conference in Tahiti in May 2017.

### **External vs Internal Observant**

When, in January 2017, The Seasteading Institute announced the signature of the Memorandum of Understanding with the Polynesian government (TSI, 2017j13), my year and a half quest to find a case study involving an alternative or emerging form of governance ended. The Project would be launched with a conference in Tahiti four months later. Seeing the opportunity to participate in what I saw could be a historic moment for the Startup Societies movement', I applied to speak.<sup>16</sup> The topic of my talk was bio-inspired, self-organised political systems which 'forked' - i.e., bifurcated - from nation-states. I was accepted. Months later, I flew to Tahiti.

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<sup>16</sup> The Startup Societies movement (see: Startup Societies, nd; Frazier and McKinney, 2019b) comprises the proliferation in the last decades of small scale, experimental forms of governance, such as special Economic Zones, charter cities, ecovillages, seasteads, private residential communities, intentional communities and microstates.

While touring Tahiti in a bus with the other international speaker attendees, from 17 countries, Blue Frontiers' co-founder, Randy Hencken, invited speakers and attendees to volunteer for the Project.

After returning from Tahiti, I joined as a volunteer in the online project management platform used by the Project, Basecamp (see: Ventury, 2019).<sup>17,18</sup> Additionally, I started attending weekly video meetings of the Project's working groups. My entire participation in the Project as a volunteer, including activities in these platforms, is protected under a non-disclosure agreement (NDA) (see Appendix 1). This Agreement states that I cannot share information that is not already public or that I have not been given permission to share if it was confidential. This affected the type of data I could collect and what I could argue, as I describe in the challenges section below. Despite the limitations, the non-disclosure agreement gave me access to internal data, working documents, maps, conversations, insights, budgets, people, confidential information and various internal visions about the Project.

In August 2017, I was invited by the Startup Societies Foundation to be part of a seasteading panel at their summit in San Francisco. I shared the panel with three Blue Frontiers staff. My structured answers in the summit made clear the potential relevance of my profile as a doctoral candidate for the Project. Before that, while I sometimes commented on posts on the online project management platform, my participation in video meetings was mostly silent. Part of the reason for this was

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<sup>17</sup> Basecamp is an app that allows group posts, to-do list, live chats, file storage and schedules. It works similarly to a private forum, where people can discuss topics and comment on them.

that I was aware of my dual, and therefore uncomfortable, role. Therefore, at first I was mostly a quiet observant, cheering on a good idea every once in a while. However, afterwards, I started to contribute more on the online discussions with ideas and critiques. I also took on more tasks such as translating the website to Spanish. While being a volunteer, Blue Frontiers began planning the launch of its cryptocurrency, Varyon. To help promote the launch, I organized and attended events around the world about blockchain.

It is worth noting that these events were predominantly male-dominated. As it often happens, it was common in these events for men to address only other men in conversation groups. Being raised by a feminist scholar, and being one myself, I decided not to allow the male-dominated 'tech world' to make me invisible. This affected the development of my role in the Floating Island. I soon became more active in Basecamp and even coined the initial name for the Project's cryptocurrency, SeaCoin; the name was later changed because there was already another cryptocurrency in Greece with the same name, as it was discussed on the Project's open group on the app Telegram.

Weeks later, my more active involvement paid off. Blue Frontiers invited me in October 2017 to French Polynesia to run a one-day workshop for 25 Polynesians about biomimicry and self-organisation (Tahiti-Infos, 2017, Actu.fr, 2017). While the workshop was only one day, I decided to stay in Tahiti longer. Therefore, from October to December 2017, I lived at a rented house with the Blue Frontiers founders and staff in the mountains of Tahiti. Other volunteers, staff and advisors visited for periods at a time.

Around the time, I still had not grasped the Project in its entirety, nor the different motivations of players in the Company. Back then, I, like most others involved in The Floating Island Project, believed the Project was going to – and should - work. However, things were not going well and I could see this. To have more influence in the Project's direction, and given that I was one of the few members of the Project who spoke French (the main language of French Polynesia), I proposed myself for various managing positions within the Company. While none of these roles materialised, Joe Quirk, a key player in The Seasteading Institute, titled me as a 'seavangelesse' during a trip to Marlon Brando's neighbouring island, Tetiaroa. I was pleased with this and posted about this new title on Facebook. This was Quirk's deliberate play on words within the context of The Floating Island. After all, the title 'evangelist' is widely used in Silicon Valley and tech companies to denote, as it appears in Forbes Magazine, "a person who believes in your product or service so fervently that he or she aggressively promotes it to others" (Pattel, 2015). Months later, in February 2018, I was officially hired in the role of Blue Frontiers' 'Seavangelesse'. I was basically the Company's international spokesperson through podcasts and in events, such as meetups.<sup>19</sup> This spokesperson role, however, did not include French Polynesia. One of Blue Frontiers founders was in charge of that. I explore more in-depth the ethical implications of my dual role in the sections of advantages and challenges of this chapter and in the ethics section.

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<sup>19</sup> It is important to note that because Blue Frontiers was a startup, during my participation in the project, I received a very minor percentage of equity in the company. However, because the Project faded, it was unclear what the status of the shares were. At the end of this PhD, I asked Blue Frontiers what the status of the Company and the shares, but I was awaiting for confirmation of their status and so far I have not received a reply.

In my new paid role of 'seavangelesse', my tasks were recording podcasts and writing blogs. The podcasts, blogs, meetups and living in Tahiti with Blue Frontiers' staff gave me countless opportunities to gain a better understanding of the Project, the people involved in it and the different positions and visions within it. This participation also contributed to my understanding of the Project. This is because, to be a well-informed podcast host, I had to study every aspect of the project. I learnt about governance, graphene reinforced concrete for floating platforms and even the market of floating real estate. However, in most cases, I tried to keep my position as a researcher and as Seavangelesse as separate as possible, although there were a few instances where these two roles met, as I explain in the empirical chapters.

On average, I participated in 8 weekly meetings on Zoom and I daily read the Basecamp posts. The online group meetings worked as think tanks. Additionally, I attended one meeting with all the volunteers and staff. While, again, I do not cite nor reference content from the meetings nor platforms, the use of Basecamp was especially interesting and is worth saying a little more. Basecamp was used consistently for more than a year in the Project. It was the place where volunteers shared ideas and information (Ventures, 2019).

### **Offline Participant observation**

The online participatory/observation was enriched by offline participatory observation in French Polynesia and in the Netherlands. I made two trips to French Polynesia in 2017. One visit was in May, as an external observant, and the second one went from October to December, as a participant/observant. As I wrote above,

during the second trip, I cohabited with the Blue Frontiers team residing in French Polynesia. This gave me countless opportunities for informal and formal communications about the Project's progress and all its main actors. I could grasp spoken and unspoken nuances and subtleties of the participants that I could not have grasped otherwise. I could also see the various personal motivations among the five Blue Frontiers' co-founders. These ranged from creating new communities and technologies, innovating with governance, to simply gaining personal status. In this second trip I was also given access to confidential information about the Project, including the unpublished legal feasibility study, which Thevenot (2017) explains was done by the French firm GB2A. The legal study was the legal report submitted to the government for studying the viability of the Project. As such, it gave me a clear understanding of the Project's requests for the SeaZone.

Likewise, in February 2018, I visited and worked for two weeks at the office of Blue21, the Dutch floating architecture firm working with the Floating Island, in Delft, Netherlands. While the reasons for my trip were not to collect data, this visit enabled me to better comprehend Blue21's environmental vision for the Project, beyond the documents and meetings, and their commitment to sustainable architecture.

My in-person empirical observations in these trips relied on recollections of conversations in which I was part of and on notes I took about them afterwards. Despite the richness of this information, I left out everything which is not in the public domain or related to the thesis. I discuss the limitations of doing so this in section 4.5. of this chapter. For space reasons, I also only dedicated a paragraph to some of the topics which were most interesting for me and that aligned very well with Puig de la Bellacasa's care and non-humans approach. This is the systems



ecology perspective to the Island's design and how non-human animals played a central role in the Environmental Impact Analysis of Blue21.

#### **4.3.2. Document Analysis**

Document analysis was the second data collection method used for this research. This method, as Bowen (2009) describes it, consists of the systematic revision or evaluation of documents, printed or electronic. According to Bowen, the data from documents should be selected, made sense of and later synthesised. This method allowed me to corroborate or back the qualitative evidence found as a participant-observer. It also pointed me in new directions to what to look for in my participation. Overall, documents were particularly useful for the research, given that the Project was in a planning phase - I say more about this below.

Documentation is an efficient method of research because documents, being stable sources, work as halting points (Merriam, 1988). In ongoing projects, having halting points in the form of published data helps to select among the vast information of things being constructed. However, authors such as Bowen (2009) warn that documents should not be treated as 100% accurate evidence. To a certain extent, this applies to this case study too. While documents were the most static and shareable data source, the Floating Island Project study did not materialise. Consequently, it is difficult to contrast how the Island would have been had it not ended. Nevertheless, the halting nature of the documents allowed me to construct and share an image of the Project and the planning stage it reached, as faithful as possible to what I observed.

#### **Documents Analysed**

For data about the Floating Island, I mostly focus on sources containing first-hand information. For the empirical chapters (Five, Six and Seven), the main documents

analysed were publicly available documents by Blue Frontiers and Blue21 – all available on Blue Frontiers' website. More specifically, I looked at the environmental (Blue21, 2017), economic (EMSI, 2017) and location (Blue Frontiers and Blue21, 2017ls) studies. I also analysed the reports of the working groups about energy and water (Blue Frontiers, 2017e) and food (Blue Frontiers, 2017f). The Food Systems and Energy and Water reports discussed possible technologies for the Island collected in the two last quarters of 2017. These reports were written by volunteers and staff groups and, to a certain extent, they are a reflection of some ideas discussed on Basecamp and on Zoom. I also use the Varyon purchasing document (Blue Frontiers, 2018e) as a key data source. I additionally use data from Blue Frontiers' Medium blogs account and various publications associated with The Seasteading Institute.

There is, however, one confidential document which I mention in this thesis, the legal study (GB2A, 2017). The legal study was part of the studies submitted to the government. I cannot mention the specific concessions the Project sought. This limited the thesis, for it made it difficult to share those topics that were considered for the SeaZone from a legal perspective. Thankfully, there were enough public sources by Blue Frontiers and others, including the Memorandum of understanding, which mention the type of regulations sought by the project. Discussing these was a strategy I took to overcome the limitation of not being able to share the content of the legal study. Nevertheless, I expand more on the implications of this limitation on the Challenges section below.

I took two additional safeguards to make sure I did not violate the non-disclosure agreement, besides using only public information. Since the legal study was a starting point to understand the regulations framing the SeaZone, close to the

thesis submission date I shared with Blue Frontiers' co-founders phrases in the thesis that mentioned the legal study. Even though it was not necessary, I also shared phrases that discussed existing regulations mentioned in the legal study. Subsequently, I was given permission to cite the document in relation to the existing regulatory framework of French Polynesia.

One additional strategy I used to overcome the limitations imposed by the NDA was to refer to French lawyers to support legal claims regarding existing regulations that apply in French Polynesia. And while the legal study is not in the references, I found important to mention it and give it the correct credits whenever necessary. This is because the study helped me get a general understanding of key, existing regulations of French Polynesia, some of which could have potentially applied for the Project. The study was particularly useful, especially because I am not a lawyer, nor my background is in law. In the section of the advantages and challenges of the methodological approach, I expand too on other challenges posed by the legal study, its French language and the non-disclosure agreement.

### **Facebook, State of the Art Reports and Varyon purchasing document**

In addition to my participation in Blue Frontiers, for this thesis I also extracted data from Blue Frontiers' English and French Facebooks, as well as videos in personal profiles and Facebook pages. The Facebook data used for the thesis mainly consists of videos and video comments. All videos and comments were public and all the names of the Facebook users have been removed to protect their anonymity, unless they were or became public figures in Tahiti.

I selected the videos based on the number of views and comments they had during the peak of controversies about the project. There were four videos which stood out. I selected comments which reflected the most frequent views and grouped them by topic. During the selection process, I tried to select comments coming from Facebook users with names, profile pictures and background images that suggested they were from French Polynesia. This was to improve the chance that the views were expressed by someone from Tahiti or neighbouring islands.

### **Excluded documents**

From the document analysis, I excluded most international news articles written about the Project. I only cite news sources that were French Polynesian or which help support my claims about the quality of the news discussing the project. I decided to exclude newspapers because, through participatory observation, I noted that most news articles written about the Floating Island were regurgitations about previous articles and contained information which was not well researched.

I also exclude data from Blue Frontiers documents paragraphs, texts blogs or documents I took part in writing. As Bowen (2009) suggests, documents analysed should be written without the researcher's intervention. The only exception is the Varyon purchasing document draft, which I contributed to. However, I was given access to this document when it was almost finished. My contributions in this document consisted of imprinting my own hope about governance in the project, such as the idea of having heterarchical decision-making systems. However, this is all excluded from this thesis. I also contributed to conversations about the Island's possible e-Residence program. I worked on this idea separately under Blue Frontiers' Global Seasteading Movement, before it became a Blue Frontiers Global (see: [blue-frontiers.global](http://blue-frontiers.global)). However, I entirely exclude this international

competition and the e-residence idea I was working in from this thesis, even though this was not the same type of iteration of e-residency which is pushed forward in the purchasing document. Overall, written contributions I made to Blue frontiers documents is excluded from this analysis.

#### ***4.4. Research Design***

This research, as is often the case with ethnographic approaches, collected rich data. A reason for this abundance was the evolving nature of the Floating Island. Indeed, throughout this research, the Project was in the planning phase. Therefore, during the data collection process, there was an abundance of ideas that could be easily confused with plans. Since almost any idea could potentially materialise, the data collection process was immense. So much so, that in January 2018, the document for my notes and reflections was almost three times longer than what was required. To reduce the number of words, I developed a colour-coding method for tracking the thesis progress and grading the daily words reduction progress. However, before that, I eliminated all information which was confidential, and I could not use. This limited what I could say, but avoided ethical issues arising from the use of confidential information.

#### **Data-Driven Research**

This thesis followed the data. At the end, a significant portion of it pointed to reasons why the Project had come to an end. However, at the beginning of the PhD, my interest in special jurisdictions with emerging or alternative forms of governance influenced my research choices. Thus, the early thesis material concentrated on how governance on the Floating Island might be. Throughout the data collection, I gathered data from the weekly meetings and organised it in the qualitative data classification software Nvivo. I grouped key concepts of

governance according to potential properties in the Floating Island's governance, which I thought it could exhibit due to SeaZone's interest in creating new forms of governance and Special Economic Zones. This suggests that, before the Project begun fading, I approached it as something that was going to be. However, the fading of the Project and the peak of its crisis showed a more interesting and important side of it. It evidenced the Project's complexity in ways that its slow build-up did not. This influenced the research design, shifting the focus. With it, my role as an "ethnographer" shifted to that of a witness (Guillion, 2016); a 'realist teller' (Van Maneen, 2011). As Guber (2001) writes: "subjectivity forms part of the consciousness of every researcher and it plays an active role in knowledge". Despite my initial enthusiasm about the Project, here I have tried to present the most accurate and objective representation of the Project, despite my initial support. This is why I speak here in first person, in some aspects critically and in others almost as an advocate.

## **Nvivo**

During meetings, I collected data and inputted it into Nvivo as a way of managing the data overall. At the beginning of the data collection process, I gathered data on 8 features of complex systems. These were: bottom-up processes, decentralisation, emergence, nestedness, networks, nonlinearity, self-organisation and complexity. Likewise, I collected data on 9 governance concepts: bottom-up, voluntary, non-hierarchical, hierarchical, heterarchical, polycentric, decentralised, voluntary and self-organised. However, none of these terms appeared recurrently - if at all - during meetings, even though it was possible to associate almost all data to them. For example, data about the Project cryptocurrency usually fall within the decentralisation category, since the token's goal was to decentralise governance.

But it could also be classified under voluntary, polycentric, etc. because these were broad, and rich categories. This was a limitation.

Nvivo, additionally, presented limitations for categorisation including many overlapping complexity and governance concepts. For example, self-organisation and decentralised can both be understood as features of both. Given the complexity of my case study, I did not find this problematic. Yet, it did make data categorisation in Nvivo seem arbitrary - despite the software's purpose of avoiding this. An additional limitation of this process was that the majority of topics discussed never materialised because of the stage of the project. Because the Nvivo interface was not plastic enough for my case study, I abandoned Nvivo and begun categorising meetings and Basecamp data in the same way in which I categorised documents data and extracts: by colour-coding by topics related to complex governance, instead of by properties or features of complex systems and governance separately.

### **Categorising and Colour-Coding by Topic**

Categorisation is crucial during data selection processes (Labuschagne, 2003). The data categorisation here entailed splitting into four categories: legal, environmental, economic and social. These categories originate in the Memorandum of Understanding (2017). The document read that the Institute needed to present legal, economic and environmental studies to the government. I added the social category also to capture the social and community aspect of the Project, which would arise from the people moving to the Floating Island and the interactions with those living near it.

Each of the four categories had a colour. Legal data was blue. Environmental data was green. Economic data was yellow. And social data was pink. These four

colours are the most common in sticky notes and highlighters, which I used in notes, books and printed papers. Each color/category had a folder. Each folder had subfolders and documents for more specific topics. For example: selection process of residents was a sub-folder within the social folder. Collective management of utilities was a subfolder within the Environmental folder. Non-human animals was a subfolder within the environmental one. Technological aspects were included under environmental. These categories were broad enough to include most aspects of the Project that would be governed. I also colour-coded the type of written data in each paragraph of each subfolder. This helped me to visually understand the type of data I had.

The demise of the Project, however, expanded the focus of the research to include also why it did not go through. This is the main way in which the data collection process transformed after it had begun. Going back to Agar's view of ethnographies as complex adaptive systems, in studies where the object of study is being planned and is also constantly evolving, the methods become evolving processes themselves. As the Project began to fade, the focus moved from exploring the governance of the Project once it was built to discuss things I could 'observe' in the present, such as its regulatory framework, stakeholders and decline.

As the Project faded away, the research questions and the argument iteratively co-constructed each other. My role as a researcher was to make sense of this data, by pointing out links between the data (Katz, 2002). Thus, I constructed (using the software Scapple) an evolving network of interrelation among the thesis' concepts. This concepts network enabled me to see the relations among concepts of the empirical chapters, and to present the thesis as academic storytelling process



(Guillion, 2016). I tried to build the empirical chapters in ways that followed Hart's (2011:25) story arc: exposition, rising action, crisis, climax and falling action. This structure can still be seen in the empirical chapters and is the reason why I start with the history and the discussion on how the Project would be structured, I then move to presenting concerns, potentialities and disparities concerning the Project's stakeholders that build-up tensions, and I close the empirical chapters with the Project's controversy in Tahiti, by discussing the Project's final stage.

#### ***4.5. Advantages and Challenges of the Methodology***

There were three main advantages of conducting this research using ethnographic methods. These were access to first-hand sources, access to confidential information and seeing the Project unfolding from within.

##### **Advantage 1. First-hand sources**

By virtue of being a participant/observer, immersed online and offline into the object of study, I was able to rely on first-hand experience and data collected in first person. In retrospective, I understood that participating in the Project gave me a much more comprehensive knowledge than what the news outlets provided me when I was an external observant. Ironically, these news articles, in some ways, misinformed my research before I got involved.

One example of the misinformation was the news' repetition of Peter Thiel's involvement in the Project. This was one of the media's favourite topics. After visiting French Polynesia in May 2017 I realised that, contrary to what almost every news article said, Thiel was not involved in the Floating Island in any capacity. While news stories were abundant, having access to first-hand sources helped me to filter fake or tangential news. I, therefore, filtered and made sense of the data

based on what I saw first-hand. Having access to first-hand sources slowly debunked my initial assumptions and expectations about the Project, and it shaped my final argument.

### **Advantage 2. Access to confidential information**

Since becoming a participant in the Project, but especially during and after visiting Tahiti the second time in October 2017, living and working 24 hours a day, 7 days a week, for 2 months, with Blue Frontiers' staff gave me access to crucial and confidential information. It helped me understand further the case study, the different actors in it, and each of their various motivations. It also gave me access to confidential documentation, such as the legal study submitted to the government. These documents, and the study in particular, enabled me to see how the Project was being envisioned in regulatory, community, environmental and governance terms.

### **Advantage 3. Seeing the Project from within**

Using participant-observation meant that I could see the Floating Island unfolding 'from the inside'. This meant having access to informal conversations with members of Blue Frontiers, The Seasteading Institute and Blue21. These would inform my research, my position and my argument, even though most things are not explicitly included nor cited. This 'seeing from within' also allowed me to experience and understand some of the tensions behind the project, such as the perception in Tahiti towards the Project's local representative. Some issues made it into my final draft because they were also externally reflected. The majority, however, did not. Issues connected to gender, diversity of the demographics, potential residents, multiple stakeholders are some of the ways in which 'seeing

from within' became tacit topics underpinning this research, thus contributing to its objectivity.

## **Challenges**

I experienced five main challenges in terms of how the research was conducted. These were: studying a project in the planning stages, writing with a non-disclosure agreement, having two simultaneous hats, reading legal documents in French and writing about a failed project involving former colleagues. I go through each of these challenges briefly in what follows.

### **Challenge 1. Project in Planning Phase**

The first challenge intrinsic to this research using participant-observation was studying an open-ended, evolving case study. This meant that, throughout the investigation, the Project was always changing. This made it difficult to choose halting points to look at. It also meant collecting enormous amounts of information, since each aspect of the Project or idea, until the Project faded away somewhere in the third quarter 2018, was something that could potentially materialise. These moving parts made it challenging to limit the data collection. Moreover, no aspect of the Project was entirely developed and the position of the government was most of the time unknown, postponed and uncertain. This increased the difficulty for presenting a definitive view of where the Project was going in its planning phase. The ultimate demise of the Project resolved this. It focused the problem, research questions led me to select a specific subset of events and events in time, and reduced the data I could use.

### **Challenge 2. Writing with a non-disclosure agreement**

Signing the non-disclosure agreement (see: appendix 1) was what Guber (2014) refers to as a successful entrance in the community being studied. It transformed my role from an external observant to a part of the community, part of the 'thing' itself. While the NDA had key benefits for the research, such as access to first-hand sources and confidential information, it limited what I could say and share. This is because the document ensured privacy and confidentiality for the Company. However, as the data I could use became smaller and smaller, I found that the complex governance framework was useful in more than one way. It described the creation, governance and demise of the Project, but it also enabled me to show, through the three chosen features, the other side of the story, the public side of what I could not share.

More specifically, the concept of nestedness and multiple stakeholders reflected some of the issues included in the legal study relating to the many institutions that needed to be untangled or dealt with when creating the floating Zone. I do not cite the legal study nor disclose what concessions or specific areas of regulations the Company sought. However, *nestedness* serves as the conceptual tool for conveying to the reader the idea of the existence of many regulations and institutions that needed to be taken into account for creating the SeaZone. To make sure that nothing included in this thesis went against the NDA, I shared with Blue Frontiers founders those phrases included in the thesis that mention the legal study as well as those parts that convey that the legal study mentioned that specific institutions that regulate certain topics in French Polynesia. The description of the regulations and institutions of French Polynesia and France that apply in Polynesia was not confidential. However, I did this to make sure that the Company was ok with the information I used relating to the legal study. The Company was ok with it. In the end, I was able to mention existing national and supranational institutions

and regulations and how they would shape the SeaZone. but without ever disclosing specific regulations that Blue Frontiers sought for the SeaZone This explains why in Chapter Five I do not discuss what the Project sought in terms of concessions, but I only mention some examples of regulations and institutions which would have framed the Project, based on information publicly available that referred to the type of policies the Project could have.

Similarly, the concept of waves was also instrumental, in that it showed the critiques and controversy the Project was facing without disclosing confidential information within the Project. The concept even helped to tell the story in a way that put at the centre the most important perspective, that of locals. And most importantly, the apparently descriptive concept (and chapter) on *multiple levels of stakeholders* is a place where publicly-available information tells the story of problems within the planning of the Project that were relevant since its beginning. This concept enabled me to construct dissonances within the image of the Project with what was publicly available. The same applies for the way I tie together the evidence and the work of Ostrom in Chapter Six. Ostrom's emphasis on local stakeholders supports the idea that the Project presented issues related to lack of long-term community engagement, involvement and planning of the project with and for locals. I was able to say this without ever mentioning why was that the case or decisions within the Project that led to it. And while one could argue that my participation in the Project made me an accomplice, these three complex governance concepts were my way to criticise and show my position towards the Project, without violating the NDA.

The non-disclosure agreement impacted the Project in other ways. As I have mentioned, I could not share the content of the legal study. To overcome this

limitation, I resorted to legal scholars who had written about the Project from a legal point of view, such as Lallemand-Moe, and who had discussed similar possibilities and limitations for making the SeaZone similar to those mentioned in the legal study. Something similar applied to information that was important internally and externally. When in the thesis I describe internal issues, for example, when I describe that someone no longer formed part of the Company, I made sure I had public information to back it, such as the person's photo disappearing from the website or someone else mentioning it online. The only exception to this is information found through this research. The complex governance framework turned the agreement's limitations into an advantage and an opportunity to engage more in-depth with complexity and case study in question. It pushed me to show how complex frameworks and institutions come to be.

### **Challenge 3. Two simultaneous hats**

Having two simultaneous hats was an additional challenge for this research. This is because, as Van Manen (2011) explains, ethnographers are simultaneously outsiders and insiders. These roles, as the author argues, need be negotiated. Indeed. In my case, throughout this research it was sometimes difficult to set limits to my participation in the Project, define my position, and even to solve time issues. At times it felt as if I was playing for opposite teams. To best execute my role as a doctoral candidate, I tried hard to be objective, critically engaged and reflective. However, my role in Blue Frontiers, especially once I started working as the communicator, entailed promoting the idea in a neutral and often positive manner. These two roles were clearly contradictory. The negotiation for these roles was many times, 'awkward'. This was particularly the case during my time spent in French Polynesia, when I lived and worked in the same house with members of Blue Frontiers. For example, I wrote this methodology chapter while being in

French Polynesia, living with and being surrounded by members of the Project. Because the methodology chapter required in-depth reflection, both of my role and my Project, I felt awkward writing it. I felt like a reporter taking notes for her next piece. However, my role as a researcher required objectivity. That said, I also felt sometimes uncomfortable with my participant role by being part of a project that, I was starting to see, had many flaws.

The feeling was intensified by the power dynamics arising from my specific role as a volunteer and by being woman, especially being a young, 1.5mts tall, often smiling, woman from the Global South at that. My gender, together with assumptions about my personality made me appear non-threatening. Guber (2001) notes similar gender issues arising in ethnographic research. Easterday (1982) also explores precisely this idea of women being seen as less threatening researchers. This last idea was present in my participatory observation, and in more than one occasion required me to have to prove myself continually. While unfortunate, I tried to turn this into an advantage by working hard to achieve higher positions within the company, which led me to the role of “Seavangelesse”. This added more credibility to my role, opening the door to attend more confidential meetings, thus helping me understand the Project better. I also dealt with the simultaneous hats by trying to keep my two roles as separate as possible. The feelings of awkwardness went away as I my research skills made my work in the Company better. This is because doctoral research requires understanding in-depth a phenomenon, looking at its different sides. This made the podcast better researched. However, it also led to instances such as the one I describe in the ethics section.

Although, generally, I think the fact that I had these ‘two hats’ was advantageous for this research, there were some instances where I experienced a clear ‘clash’ in my simultaneous roles. It is worth saying a little more about these here to illustrate further how I dealt with these tensions. The first instance where my role as a researcher for my PhD clashed a little with my role in the Company concerns a situation I found out about while doing research online for the thesis. Through a few paths Wikipedia search that took me to the French Polynesian president’s website, I found out that the political party of the French Polynesian president, who until campaign time had publicly supported the Project, used the Floating Island as the only negative environmental point of his re-election platform (Tapura, 2018a13; Paruru la Atimaono, 2018) – more on this in Chapter Seven below. This was important for the Project, as it coincided with the time where Blue Frontiers shared in its Medium account that it was conducting conversations with another archipelago in French Polynesia (Blue Frontiers, 2018n). I found this strange. To my knowledge, no one in the Company outside of French Polynesia was aware of this. Thus, I decided to share my preliminary research findings with the four managing directors of Blue Frontiers who were not in French Polynesia. This decision entailed prioritizing the research and the truth over the future of the company.

The second instance where the two roles crashed consists of a Facebook video which I describe in Chapter Seven, in which I speak on behalf of the Project. Unlike the podcasts I did in the Project, this video was not so neutral and exploratory. I, instead, was defending the Project. At the time, I was working as a *sea-vangelesse* of Blue Frontiers and was still in the middle of the data collection process. I had not moved yet away entirely from the idea of writing the thesis about the how the SeaZone would govern itself, once established, to the attempted transition from



design to implementation. Considering that I was also a researcher when I recorded the video, the video could make me appear non-objective because I defend the Project I worked for, while it was already evidencing several of its problems. However, after this video, I took a stronger and more critical stance to the Floating Island Project and the way it was carried out.

Indeed, as the research advanced, and as the empirical chapters show, in this thesis my position towards the Project recognises various of its problems, especially those relating to the non-involvement of the local community. My final position is visible in the empirical chapters and conclusion. When the reader finishes reading this thesis, there will be no doubt that my position regarding similar projects is one which recognises the enormous potential of floating special economic zones. However, these projects need to be coherent to successfully move from design to implementation. Coherence cannot exist if projects do not make sense for their locations.

#### **Challenge 4. Reading Legal documents in French**

Conducting document analysis of legal documents in French was very difficult. So much so that it constitutes the fourth big challenge of my methodological approach. Although this thesis predominantly uses English-speaking literature (a limitation of this research), there were numerous French regulations which I had to read and skim for writing Chapter Five. The legal feasibility study was a very useful starting point for getting a general understanding of the regulatory and institutional context of French Polynesia. However, this document, one of the most important ones of the Project, and all regulations it referred me to, was in French. French is not my native nor second language so doing this took a significant amount of time.

Understanding these documents became harder because French Polynesia uses civil law. Civil law regulations can sometimes be difficult to follow. Each document calls back to other legal documents that the regulations in question modify or derogate. Since my main background discipline is not law nor French Law, understanding this information took me longer than researching any other part of the Project. Translating was not always an option because many of the regulations uploaded to Polynesia's legal repository were scanned documents that were not easy to select.

#### **Challenge 5. Writing about a failed project involving former colleagues**

Lastly, the final challenge of this thesis was writing about a failed project involving former colleagues. While the Project's fading made the research and case study arguably smaller in that there was an end to it, it also led to writing about the reasons why it faded. In some cases, explaining events in the Project's fading meant naming specific people. For example, in the thesis I describe an inconsistency in the Project's messaging concerning one of Blue Frontiers' co-founders, his new company and French Polynesia. This led to a series of messaging discrepancies, which I discuss in the empirical Chapter Seven. Although I encountered this data through my doctoral research, I shared this preliminary research findings with the other co-founders of the Company. Blue Frontiers stop being involved with this co-founder shortly afterwards. In a case like this one, where there are clear public discrepancies, it is at times challenging not to mention specific people when discussing specific events involving the Project. Those instances are not as awkward as others that are more general. For instance, in Chapter Six, I point out the few attempts to involve Polynesians in the Project. Since it is not a specific decision, point in time or person involved in a single event, arguing for it becomes more difficult. Six.

#### **4.6. Ethics**

For conducting this research, ethical approval was granted by the university committee. Of particular importance from an ethical point of view was the Non-Disclosure Agreement document and my two simultaneous roles.

##### **Participant Observer**

The question of my two roles surfaced often. And so did the contradictions. In several occasions I found myself having to explain that I was a participant-observer and that being part of the Project gave me better access for a more informed research. That said, it was only once the Project begun fading and I stopped doing the podcasts and attending events that I focused more on putting together all the thesis pieces and data collected. I was clearly confronted with contradictions of my role as the Project's spokesperson while doing document analysis on the foundational seasteading text by Friedman and Gramlich (2009) and reading the way the authors spoke about the "third world". I briefly highlighted key ways in Chapter Three. Through my dual role, I, a woman from the Global South, a "subaltern", as Spivak (2003) calls it, who had decided to do a PhD in the first place to improve my (and mine) position in the international landscape, was promoting the same types of power dynamics that I had worked and studied to so hard to break away from. While I knew the role of a participant observer, as stated in previous sections, is inherently full of contradictions, it pleased me not to have the dual role anymore. From that moment on, as a way to balance out my own involvement in a neo-colonial Project, I came up with five simple principles for the types of projects I would get involved in the company I was already starting to plan for when I finished the PhD. These principles accompany me to this date and have

marked a difference between traditional seasteading-like projects and the type of floating real estate and zones that I work with.<sup>20</sup>

Other instances in which the participatory observation, and specifically the simultaneous internal and external roles it came with, conflicted was when researching for this thesis led me to come across publicly available information about the Project that contradicted what its own social media channels said. I am referring to when I found out that a Blue Frontiers co-founder started a parallel competing company or when the Polynesian government distributed pamphlets against the Floating Island and the Project and its audience outside of French Polynesia did not know. Both times, I decided not to keep this secret. I knew I had to do the right thing, and my researcher hat prevailed.

Overall, my dual role, while awkward, influenced my final position in this thesis regarding the creation of the Project and SeaZones. That is, on the one hand, I recognise and discuss several of the problems the Project had. On the other hand, I acknowledge the potential impact of special jurisdictions and floating architecture when these mix in the right way. This starts by understanding the implications of existing complex governance systems and those being created. In that way, this thesis might be one of the few texts about the topic which do not take an entirely critical nor favourable approach to the topic, but a mixture of both. At the moment, there are two types of writing about seasteading-like and floating zones: there are authors who believe in seasteading almost fundamentally and there are others who only focus on its problems. The reality is that these two are faces of the same coin.

## **Non-Disclosure Agreement**

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<sup>20</sup> The principles can be found on the company's website: [www.seaphia.blue](http://www.seaphia.blue).

As already noted, the type of data I can present in this thesis as empirical evidence is constrained by a non-disclosure agreement. I signed this document when I became a volunteer of Blue Frontiers and it applied for all my time after it. Consequently, information arising in meetings, minutes, unpublished documents, confidential documents, formal and informal conversations involving Blue Frontiers or related people, in person or online, are not part of this research.

From an ethical point of view, signing this document could have meant putting the researcher objectivity at risk, because I was constrained in what I could say. However, I found ways to tell the story and to speak of some of the Project's problems with what was available. The instances where my internal and external hats clashed, described above in this section, reflect that I did not negotiate the responsibility I have as a researcher and a researcher from the Global South, in telling the story the way it happened. Additionally, as I have explained in the complex governance section of the previous chapter and here, the concepts of complex governance enabled me to say via the three features (nestedness, multiple stakeholders and waves) what I could not say because of the NDA.

#### ***4.7. Conclusion***

This chapter described the methodology and methods used to conduct the research and collect the data. These were online and offline participatory observation and document analysis. The chapter presented the research design and the role that the planning phase of the case study played in the evolution of the research methods. I additionally reflected on the advantages and challenges of the methods and expanded on ethical aspects of my two hats and of signing the non-disclosure agreement.

## PART II. EMPIRICAL CHAPTERS

## CHAPTER 5. INSTITUTIONAL NESTEDNESS

### **5.1. Introduction**

To support this thesis' argument that the Floating Island Project exhibited three key features of complex governance, in this Chapter, I focus on nestedness and the institutional and regulatory framework of the Floating Island. Nestedness is a fundamental property of complex governance forms, in the same way that nested structures constitute the makeup of other complex systems. Simon (1962) explains that when systems exist within other systems, they are nested. In a governance context, authors such as Vella and Baresi (2017), Gómez Lee and Maxfield (2017), Haarstad (2016), Zia and Koliba (2011), Hamilton and Lubell (2017) and Lubell et al. (2017) each explain that multiple institutions and layers within others make up a complex governance structure. That said, there are two main ways to see nestedness in the Floating Island. One arises from its location and the other one from its institutions. However, they both come together in governance because of how they mutually shape, as we shall see.

In this chapter, I show how the Floating Island, from a legal point of view, would be structured as a nested system formed by several institutions. The nested institutions in this structure would be the SeaZone Authority, the municipality of Teva I Uta, French Polynesia, France, the European Union and the United Nations - plus China and the United States.<sup>21</sup> The nested structure of these domestic, international and supranational institutions, and their corresponding tangled regulatory networks,

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<sup>21</sup> I do not include Tahiti in this list because, while Tahiti is the island where the Project would locate and, therefore, is geographically relevant, it does not have a government. Moreover, it was not so much the institutions and inhabitants of Tahiti, but of the specific municipality within the Island, which were part of the Project's nested structure and which played a key role in the Project. That said, from a location point of view, the Project would also be nested: Floating Island, Tahitian lagoon, etc.

would have framed the Project. Some of these other institutions are also nested within each other. However, the Project's situation was special because it would be a private actor providing governance functions. The Project it would be framed by, and create exemptions to, institutions in the nested structure and their regulations. Here, I additionally show how, in the nested framework, the Floating Island Project would follow the regulations of some these institutions in some aspects and in others no.

Here I explain how the Floating Island Project's nestedness can be traced back to its decision to be an enclave in French Polynesia which has an extended colonial history. This was compounded by The Seasteading Institute's decision to go from SeaZones to seasteads. An important starting point for this chapter is the Project's legal feasibility study which The Seasteading Institute submitted to the government in 2017. As agreed in the Memorandum of Understanding, the Assembly would examine this study, together with the economic, environmental and location studies. The purpose of these studies entailed convincing formal French Polynesian stakeholders, such as members of the Assembly, of the Project's viability and benefit for French Polynesia. Had the government approved it, the Floating Island Project would have a special regulatory package called 'the SeaZone Acts'. These Acts of the Assembly would give the Project certain autonomy to self-govern. Although the Project submitted the studies to the government on time, the Assembly did not discuss them. However, looking at the formal institutions and regulations which would frame the SeaZone is interesting, insofar as they shed light on how complex frameworks do and do not manifest. Moreover, these institutions help to understand complex governance in this particular special jurisdiction, which would have been the first one of its kind.



That said, this chapter's primary focus is formal stakeholders, despite that, as Chapter Two suggested, the literature on complex governance systems emphasises diverse stakeholders and institutions, formal and informal. The reason for focusing on these stakeholders is that the studies that drove the Floating Island Project, especially the legal study, also concentrated on them, so it makes sense that they feature prominently here as well. I explore informal (rather than formal) stakeholders in the next chapters. In the following sections, I show nestedness as it presents itself in this particular Project. More specifically, I discuss organisations, governments, coded jurisdictions, written regulations and government stakeholders framing this SeaZone attempt.

The chapter is structured as follows: I first elaborate further on the concept of nestedness used here, as used by the complex governance field. Following this, I trace back the origin of nestedness in French Polynesia's colonial history with France. Next, I look at the history of SeaZones to suggest that how the story of the Floating Island and its desire to nest within a state also explain the origin of nestedness in the Project. Subsequently, I offer several examples of domestic and supranational institutions framing the Floating Island Project which evidence nestedness. Next, I describe one implication of the nested framework, namely the existence of tangled regulations. Afterwards, I focus on additional government stakeholders that were part of the Project's nested structure. These particular stakeholders were brought into the Project's framework by how Blue Frontiers' planned the Project's token, Varyon, and not by French Polynesia's colonial history and present. After highlighting some limitations of taking this formal approach to nestedness, I conclude that the Project focused on government stakeholders.

## 5.2. *Nestednes*

This section explains the concept of nestedness by summarizing what key authors say about it. I do this in order to understand the governance of the Floating Island Project. This concept is helpful for the thesis because, as I show in this chapter, the Floating Island Project's institutional framework was going to be a nested system in all its various socio-political, institutional, spatial, economic and environmental forms. The nestedness of the Project would not have arisen only from its location within Tahiti, French Polynesia, etc., but from the type of inter-relations within and among institutions governing each of these places. Bear with me, as the following section is highly theoretical.

I noted earlier in the literature review that the key idea of nestedness should be understood in terms of the structure of complex systems. As Simon (1962) sums up, this structure has systems containing other, smaller systems that are 'within' larger ones. Nested hierarchies are ubiquitous across complex social systems. Byrne and Callahan (2013) convey that nestedness in the governance context means the existence of many levels of institutions. Brenner (2001) explains this type of structure with the example of Russian dolls – *matryoshkas*. However, there is a fundamental difference between complex nested systems and non-complex nested systems such as these dolls. While *matryoshkas* only have contact to the doll enclosing them and the one they enclose, in complex nested systems every level can communicate with others, even with those levels which are not physically close. Brenner (2001:606) uses this example of *matryoshkas* to explain that the difference is a matter of information flow. Unlike *matryoshkas*, information flow in complex nested systems forms tangled networks communicating each level of the structure. This is something we will see in this chapter with the regulations framing the Floating Island Project.

This type of information flow of nestedness is one reason why Cilliers (1998:5-7) states that complex systems' structures cannot be reduced to static levels stacked upon each other. This is an idea Byrne and Callaghan connect and understand through discussions about micro and macro perspectives, or between restrictive and general complexity. Byrne and Callaghan cite Morin (see Morin, 2006), known for his 'general' approach, as a way to distinguish between restrictive versus general complexity. Restricted complexity refers to a focus in complexity for microscopic behaviours and their nonlinear interactions. Restricted complexity allows, for instance, modelling of complex systems through a few simple rules. However, Byrne and Callaghan highlight that focusing on the specific details leaves aside key concepts of complex systems, such as randomness or unpredictability. These are concepts that, as argued by Luzeaux (2013), scientists still struggle to model in a meaningful way in applied settings. As Byrne and Callaghan add, when models try to capture the complexity of a phenomenon, there needs to be coding of a limited set of behaviours which give way to the emergent complexity, even when random behaviours are programmed. This, in turn, overlooks not only unpredictability but also that the modelled elements might be complex themselves. The authors argue that similar limitations occur when the focus is only on general complexity or global structures: fundamental local interactions and agents which give rise to complex behaviours tend to be ignored.

However, like Byrne and Callaghan, I argue that nestedness, in many ways, can diminish the division between restrictive and general complexity. Nestedness avoids this division by acknowledging that the reality of many complex systems encompasses both micro and macro levels. Several authors previously approached this epistemological division, albeit from a less social science perspective, such as Murray Gell-Man (1995) exemplified in his work, *The Quark and the Jaguar*. Other

authors, such as Gerrits (2012) address this problem from a more social systems point of view. Gerrits argues that complex systems cannot be separated in their scales because the multiple levels in their nested structures are integrated. Again this chapter shows the extent to which this is true. I will explain this by engaging with the way in which French Polynesia is constrained by France, and how each level of the Project's nested structure would have, indeed, constrained or, better said, framed the Floating Island.

However, important in the context of this thesis, is that despite the recognition that social systems can be nested, the social sciences, including political science, have traditionally focused on one level, and at most three when discussing governance. Yet, here, complex systems arguably require governance structures that are n-dimensional. Limiting studies to a few levels is usually accompanied by another problem, one which Gerrits (2012) points out: many approaches to complex governance ignore a fundamental property of complex systems, emergence. Ignoring emergence is similar to what occurs when modelling and simulation studies of complex systems focus only on the micro perspective - or macro, for that matter - they forget about randomness and unpredictability. That said, emergence, as Urry (2004:21) explains, is not the opposite of these reductionist perspectives. Instead, as Byrne & Callaghan (2013) likewise argue, the concept of emergence integrates levels, since it is the result of a mutually influencing process between micro and macroscopic systems.

As the previous discussion suggests, the field of complex governance, with its focus on nestedness and emergence, tries to and has, indeed, broken away from political science's traditional focus on a few levels of governance. To a large extent, the state still occupies the central role in mainstream political science. In contrast, the complex

governance field is frequently focused on forms of governance composed by modular structures interacting at various levels, instead of only studying a single level, centralised or hierarchical systems. This is why, in the complex governance field, concepts such as network models of governance and policy appear. To briefly explain these, these are networks involving several groups and entities which participate in policy creation, together with governments (Papadopoulos, 2003). This idea connects to Gerrits (2012:63) advocacy for the systemic understanding of policymakers' roles, by looking at them, not as single individuals, but as whole populations. He calls this a "policy action system" and explains that this system can be a subset of other complex adaptive systems – they are nested. Urry (2000:8) brings out a similar idea: "complexity means that states have increasingly shifted away from governing a relatively fixed and clear-cut national population residing within its territory".

A similar notion is presented by Dobbs et al. (2011) in reference to the governance of complexity to manage marine environmental resources and the inter-lapping of federal and state regulations. However, the existence of multiple ways of communication does not mean there are no power hierarchies among different levels of a nested system. They exist and sometimes form what Pagano (2007:7) refers to, as "spheres of influence over which distinct levels of government have control and authority". Alike, Ostrom argues, nestedness entails more rules within institutions and rules to modify those rules. In her words: "all rules are the result of decisions made in a deeper arena that define how rules may be changed" (Ostrom, 2005:32).

Yet, especially in governance, these rules come from the nature of the system and its function to govern and not only from nestedness itself. We can, therefore, speak of two forms of hierarchies present in this case study, one coming from complex

governance as a structure and one from the governance institutions involved in it. This last one, more than nestedness, explains top-down relations in complex governance systems.<sup>22</sup> As stated above, nestedness in complex systems implies hierarchical architectures in the sense of a structural property of organisation, but not necessarily in the sense of top-down information processing or control (Gerrits, 2012; Simon, 1962). This is because, in nested systems, the local and global mutually influence each other. This, in turn, can be explained by how complex nested systems are characterised by their networks with multiple levels and many directions of information flow. This is a fundamental characteristic of nested, complex systems and of complex governance - one whose importance becomes more evident as this chapter, and the other two empirical chapters, progress.

In relation to this last idea (multiple directions of information flow), a notion that frequently appears in the literature when discussing nestedness and multilevel governance systems, is “tangled”. It is commonplace for authors in the literature of complex governance to discuss ‘tangled, multitiered hierarchies’ (Brenner, 2001:608), ‘tangled hierarchies and dispersed multiscale networks’ (Brenner, 2001:605), ‘tangled political hierarchies’ (Rowe and Bavinton, 2011:812), and “complex and uncertain setting of tangled networks and blurred boundaries” (Clarke, 2007:60). Jessop, a prominent author of multilevel governance and the one whose governance concept I use in the thesis, highlights the importance of the notion of tangled.

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<sup>22</sup> It is because of this function to govern that I have opted for presenting a view of nestedness related to institutions which are tied to jurisdictions more than to geography, even though recent debates recognise the limitations of each of these approaches in isolation. With my choice of a ‘jurisdictions point of view’. I am not suggesting that what Brenner (2001) describes as scalar geography does not matter in complex governance. It simply means that I followed the direction of the case study’s data, whereby Tahiti almost did not appear in the case study, as opposed to Teva I Uta. However, I did not separate institutions from location, but the contrary, because these two are coupled in complex governance systems, as the empirical chapters and this one in particular shows.

The author writes that complex governance can “display tangled hierarchies in so far as lower levels are constrained by higher levels yet simultaneously help to shape the latter” (Jessop, 1997:6). Elsewhere, Jessop (2004:12) writes: “in contrast to the clear hierarchy of territorial powers associated in theory with the sovereign state, multilevel governance typically involves tangled hierarchies and complex interdependence”. Jessop gives the example of the European Union, explaining it is a: “nodal point in an extensive and tangled web of governance operations concerned to orchestrate economic and social policy in and across many different scales of action with the participation of a wide range of official, quasi-official, private economic interests, and representatives of civil society” (Jessop, 2004:12). While multilevel is different from nested, Jessop links the two concepts with the notion of tangled. Nested and its implication, tangled, are important for this research and as a way of appreciating this particular case study, for they help understand how extraterritorial systems like the Floating Island Project both adhere to ‘traditional’ regulatory structures and simultaneously contravene those same structures in novel ways. The Project’s nested structure helps better illustrate this complicated idea.

Before proceeding, I should remind the reader that, as I remarked in this chapter’s introduction, the most local level in the Project’s nested structure would have been the SeaZone Authority. Several materials of the Project (Blue21, 2017; Blue Frontiers, 2018a) and the location study (Blue Frontiers and Blue21, 2017) suggest Atimaono, a lagoon between the municipalities of Papara and Teva I Uta (MLA, 2014),<sup>23</sup> as one possible location. In this case, the SeaZone Authority would be Blue

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<sup>23</sup> Here, however, I focus on Teva I Uta and not on Papara as a way to bound the case study and the actors involved. Teva I Uta and not Papara was more visible in the Project’s fading and stakeholders, formal and informal. Papara did not appear in the regulations studied and there were no protestors of the Project which identified themselves as “from Papara”. This was not the case for Teva I Uta, where there were a politician and a fishers from Teva I Uta protested against the Project.

Frontiers (2018e). The Floating Island's host municipality would frame this Authority in the nested structure. Had the Assembly approved establishing the Project there, then Teva I Uta would have been the municipality framing the Project. However, this municipality, located in the island of Tahiti, is part of French Polynesia. This means that French Polynesia encloses Teva I Uta in the Project's nested institutional framework. Nevertheless, France rules French Polynesia from afar, making it a level above its former colony in the Project's nested structure. The levels of the nested structure continue, from the European Union to the United Nations, and other supranational organisations.

The interactions of the regulations of these institutions would show what I defined above as tangled. This is because nestedness in complex systems implies communications across levels in every direction. Information flows are bottom-up, top-down, etc. In this case study, top-down information flows would take place when considering that international treaties signed by France also apply in French Polynesia (EU, 2012). These treaties prevail over French regulations and can even modify the French constitution (Const Fr; 54- 55). Thus, there is top-down information flow from treaties to France to French Polynesia.

But because I am referring to a complex, nested system, the information flow is bottom-up too. In the nested framework of the Floating Island Project, for example, bottom-up relations was evident in how French Polynesia and local institutions can create exceptions to these treaties. Local concerns can also turn into documents and influence global institutions, making concerns which locally started, turn global. For instance, some key documents which influenced the Floating Island in Polynesia started as local concerns. But later, they would shape specific regulations which



would have applied in the SeaZone and also by adding cultural significance to some issues. I am referring specifically to the Taputapuātea P.A.C.T. (2015).

The P.A.C.T. was a document signed by leaders of Pacific Islands Small States, based on their concerns to climate change and sea-level rise. This consortium of leaders sought to give Small Island States a voice in Paris. It influenced Paris COP21's position and the agenda on climate change that has, since then, created more awareness of sea-level rise and climate change around the world. This Pact motivated the French Polynesian government to sign the Memorandum of Understanding. Therefore, in a way, this document was a key starting point for the Floating Island Project to include sea-level rise to its concerns, alongside governance issues. This mutual shaping of bottom-up information flows, from Polynesia to COP21, and top-down, with France ruling in Polynesia, will show in this chapter how bottom-up and top-down can mutually influence each other. Most importantly, it reveals how the concept of nestedness is a powerful way to understand the Project's institutional and regulatory framework. In the next section, I explain the origin of French Polynesia's own position as a system nested within France, to better understand the overall nested institutional structure of the Floating Island.

### ***5.3. Origin of Nestedness in French Polynesia's History***

There were two main origins for the SeaZone's nestedness. The first one was French Polynesia's colonial relation to France. The second one was The Seasteading Institute's strategy for overcoming the legal challenges of setting up seasteads in international waters. In this section, I explain the former and some of its implications on the Project.

To better understand nestedness in the case study, it is important to become familiar with the history of French Polynesia and its present colonial and jurisdictional situation. As its name suggests, French Polynesia was colonised by France. This process began around two hundred years ago, and has not really ended. In 1842, France turned Tahiti into a protectorate. Forty years later, it made Polynesia a colony. Today, French Polynesia is an overseas collectivity of France. The term 'collectivity' is used here as it is meant within the French Constitution (Const. Fr, Art 74), whereby a collectivity is analogous to an 'offshore country inside France' - *collectivité d'outre-mer* - in French. Polynesia holds this title since 2003, the year it became 'autonomous' (Loi no. 2004-192). But the extent of its autonomy is, and should be, contested. In reality, Polynesia has almost the same level of autonomy as regions and departments of France (Const., Art 72), not that of a country. In fact, it appoints the same number of representatives to the Senate, the French Parliament, and the Economic, Social and Environmental Council as French regions and departments.

French presence in French Polynesia's affairs is ubiquitous. Today, French regulations prevail in French Polynesia, albeit with limitations. The limitations arise because, as the legal study highlighted, the principle of legal specificity rules in the Collectivity. This principle specifies that French laws need to clearly state they apply in French Polynesia for them to be valid (Loi No. 2004-192: Art. 7). As an example of what I mean by bottom-up information flows in nested systems, the Polynesian Assembly can modify French regulations before they become enforceable (Loi No. 2004-192, Art. 11). Additionally, French Polynesia can call a referendum for modifying its political system and its powers regarding France. However, such a change can only happen if it the French Constitutional Council approves it (Const., Art 46) and if the French prime minister allows it. Because of its contested autonomy,

Polynesia is still in the United Nation's list of territories to be decolonised (Aencyclopedia Britannica, ND; UN, 2018a). This, of course, creates tensions inside the Collectivity.

The autonomy of French Polynesia is an ongoing point of debate between the government and the opposition. In 2018, at a meeting at the United Nations, President Edouard Fritch insisted that French Polynesia was an independent state (G.A.UN, 2018). He based his claim on the existence of a democratically elected government which was able to make its own rules (see Const., Art 73). The opposition, rightfully so, had a different opinion. Valentina Hina Cross, one prominent voice among Fritch's opponents, maintained that the Collectivity is not so democratic (G.A.UN, 2018). Cross argued that the administering power controlled the past elections and highlighted milestones before French Polynesia could be considered autonomous. For instance, the government needed more indigenous participation, since 65% of Polynesians are indigenous (World Population Review, 2019). As later chapters show, Cross's opposition to Fritch was crucial for the fading of the case study. She was an Assembly representative for the commune of Teva I Uta. As such, she protested the Project in the first quarter of 2018 during what I refer to as "the protests wave" in Chapter Seven.

It is worth noting that existing regulations back Cross's critique. The Autonomy Statute of French Polynesia (Loi 2004-194), the law that formalised the Collectivity's 'autonomy', strongly constrains it. For example, Article 14 states that in every French Polynesian island, France's jurisdiction covers the following aspects: civil services, nationality, civil rights, electoral rights, marital rules, justice, administrative procedures, criminal law, security, foreign policy, defence, law enforcement, military, imports, exports, commerce, immigration, telecommunications, audiovisual

communication, radio electric frequencies, capital, credit, treasury, financial markets, money laundering, aerial space, fishing, navigation, ship registration, passenger ships, security of large ships, university education, research, university titles, national diplomas, procedures for private learning establishments, regulations of some professions, social security programs, national airports, management of the communes, their budget, and the public function. These are not minor categories that France is in control of. However, because this is a nested system, the top-down relation from France to French Polynesia is not entirely straight-forward.

In Article 47, the same Statute of Autonomy specifies that, except for defence, security, law enforcement and public order, French Polynesia has the authority in many issues including marital systems, inheritance, criminal offences, entry and residence of foreigners (Loi 2004-192:Art 47). For the Polynesian doctor of law, Lallemand-Moe (2017b), this complex overlapping of jurisdictions made the Floating Island feasible but challenging. Lallemand-Moe highlighted that competences between French Polynesia and France are often unclear, sometimes divided and other times shared. Similarly, Bell (2017b), legal consultant of The Seasteading Institute and Blue Frontiers, asserted that French colonisation created ambiguous jurisdictions. Bell explains that the root of this jurisdictional ambiguity is France's dual role. On the one hand, France acts as a former conqueror and occupying power. On the other hand, it is a patron and benefactor. Bell brings out this legal ambiguity by examining that, among the aspects that would be of concern for seasteaders, French Polynesia has competence over taxation, ships, and labour laws; it has no competency in currency, defence and judicial aspects; and it is unclear who would be in charge of civil aviation, customs and resident visas.

The jurisdictional ambiguity becomes more evident when diving into each of the aspects mentioned in Article 14. One example is radioelectric frequencies. These are frequencies from 30 to 300 GHz in which internet, mobile, radio, television, and satellite signals travel. Blue Frontiers sought to provide for all infrastructure in the Project, including cable (Blue Frontiers, 2018e). At the moment, only two companies in French Polynesia have a license to operate cable. Had this been the case, then the existing regulatory framework for radioelectric frequencies would have been important for the Project. The legal study noted that, during the planning phase of the Project, these frequencies fall under the competence of the Council of Ministers of French Polynesia (Loi 2004-192: Articles 4, 6, 7, 91). Accordingly, local regulations about this topic are stipulated in the Telecommunications and Post Code of the Collectivity (APF, 1999). However, if these signals and radio communications come from vessels, it is not French Polynesia, but the French National Frequency Agency who is in charge. However, because French Polynesia is itself nested within France, and France frames Polynesia, the Collectivity's Code of Telecommunications follows guidelines of the French National Table of Distribution of Frequency Bands. Only in 2019, once the Project had already faded away, was French Polynesia granted autonomy over the allocation of its frequencies (TNRBF, 2019). However, the regulation which states that France determines fees did not change (CE, 2002).

Another example of the jurisdictional ambiguity involves maritime traffic. The Council of Ministers of French Polynesia generates rules for safety, traffic and navigation in inland waters. This appears in Article 90 of the Statute of Autonomy (Loi 2004:192, Art 90). However, Article 14 of the same regulation states France has competence over police and maritime traffic safety, monitoring of fishing and coordination of rescues at sea (Loi 2004:192, Art 14). The next section discusses other institutions

in the nested framework, brought by Blue Frontiers, and not by France's presence in Polynesia.

#### ***5.4. Nestedness in The Seasteading Institute's strategy***

The second place where nestedness is visible in the case study involves the creation of SeaZones in territorial waters instead of seasteads in international ones. Several reasons arguably led The Seasteading Institute to this decision: reducing engineering costs by placing the platforms in shallower waters, being closer to urban hubs, and benefiting from the legal regulatory framework of a host nation (TSI, 2014). This last was point intended to avoid the pitfalls of previous seasteading attempts and was the most substantial reason mentioned by foundational seasteading authors, Balloun (2012), Mutabdzija and Borders (2011a) and by The Seasteading Institute (2015).

Having a state's backing was crucial for these projects because, as Mutabdzija & Borders (2011a) point out, even entities without jurisdiction to enforce laws, such as the United Nations, the International Seabed Authority and the International Maritime Organisation could interfere with seasteads in international waters through specific states. Hence, law enforcement in international waters of countries such as the United States would be a significant obstacle for seasteads (Balloun, 2012). Other authors, not related to the Institute, such as Reham (2015), agree that the main challenge for seasteads in international waters is transnational law - as opposed to existing technologies. In this section, I explain The Seasteading Institute's legal reason for finding a host nation to 'nest in'.

As I mentioned in Chapter Two, The Seasteading Institute's desire was to establish floating human settlements on the ocean where individuals could create their own

rules. At the starting point of the Institute, its co-founders thought that international waters could allow more freedom to experiment. International waters could facilitate, among other things, medical research treatments that countries forbid on land, such as stem cell treatments or human enhancements (Friedman & Gramlich, 2009). However, researchers at the Institute realised that international waters are not blank slates (Mutabdzija & Borders, 2011a:5). For instance, Mutabdzija and Borders (2011a) convey that seasteads in international waters would be required to follow international conventions signed by states, international custom, nation-states laws and jurisprudence. In the words of Bell (2017a:57): “seasteads will likely not generate all their laws from within. Instead, seasteads will likely include clauses in their carriage, residency and ownership agreements that invoke the laws of some larger legal system”. Nevertheless, for this to ever become a problem, the physical infrastructure first needed to be first created. In the words of Steinberg et al. (2012:1543): “There can be no seasteading opportunities before there is a physical seastead of some sort”.

The problem, however, with creating the physical buildings without following legitimate and specific regulations is that international law lacks a definition for seasteads. The United Nations Convention on the Law of the Sea (UNCLOS, 1982) is the treaty that regulates international waters or the high seas, but it does not include seasteads. Nonetheless, it does refer to two classifications which could potentially apply to them. Galea (2009) and Lallemand-Moe (2017) indicate these are vessels and artificial islands. Lallemand-Moe (2017) explains that, according to this United Nations Convention, coastal states can authorise the creation of artificial islands in their Exclusive Economic Zone (UNCLOS, 1984:Art 56). States can designate safety areas of up to 500 meters around artificial islands where vessels with flags from other states cannot navigate (UNCLOS, 1984:Art 60). While this gives

artificial Islands certain autonomy, states ultimately have exclusive jurisdiction over the structures in these islands (UNCLOS:Art. 56). Therefore, in these artificial islands states would also be in charge of regulations regarding immigration, health, safety, customs and taxes (UNCLOS, 1984:Art. 60). These are all aspects in which seasteading seeks autonomy. Thus, a problem with classifying seasteads as artificial islands is that they would lack autonomy. Therefore, the Institute agreed that artificial islands might not be that attractive for seasteading enthusiasts.

Mutabdzija and Borders (2011a:24) point out the additional problem that there is no accepted international definition for artificial island. About this, Galea (2009:19) writes: "Artificial islands are normally associated with fixed structures of a permanent nature. On the other hand, floating platforms can be anchored to the seabed as can fixed installations whose nature is considered of a more temporary nature" (Galea, 2009:53). Galea (2009:19) in another part writes: "Since artificial islands have been expressly ruled out from the definition of 'natural islands' in the LOSC,<sup>24</sup> their status is one which is neither a ship nor as an island in international law". Furthermore, artificial islands in international waters cannot be permanent. Lallemand-Moe (2017) quotes Pancraccio (2016) and points out that, if they are permanent, they risk classifying as an illegal occupation. There is an additional limitation: the Law of the Sea only allows states to build artificial islands in the high seas. That the Law of the Sea (UNCLOS, 1984:Art. 80, 87) mentions that only states can install artificial islands in international waters meant that a non-profit like The Seasteading Institute could not. And while the Convention does not specify if a private entity can or cannot build an artificial island on behalf of states, Lallemand-Moe (2017) points out that not even states can claim sovereignty over the international territory where they create these

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<sup>24</sup> LOSC is another abbreviation for the Law of the Sea or United Nations Convention of the Law of the Sea, besides UNCLOS.



islands because international waters are common heritage spaces (UNCLOS, Art. 89).

The other concept which could apply to seasteads, in general, and as observed in this research relating to the Floating Island, in particular, concerns the blurred distinction between ships and vessels (Bell, 2017a; Lallemand-Moe, 2017). Mutabdzija and Borders (2011a:23) revealed a lack of clarity in differentiating a ship from a vessel and how their definitions would apply to seasteads. The authors quote the United States Code (title 47) to explain it: "The term ship or vessel includes every description of watercraft or other artificial contrivance, except aircraft, used or capable of being used as a means of transportation on water, whether or not it is actually afloat" (Mutabdzija & Borders, 2011a:23). The authors write that, in another part the same code, on Title 18, a ship means: "a vessel of any type whatsoever not permanently attached to the sea-bed, including dynamically supported craft, submersibles or any other floating craft". Both definitions reflect another problem which Lallemand-Moe (2017) raised: ships should navigate. Indeed, Lallemand-Moe use the works of several authors and regulations to explain that ships are floating structures designed for navigation (Daloz, 1974), exposed to the dangers of the sea (Gouilloud, 1993) and which navigate the flag of a country (UNCLOS, 1982: Art. 91). But, as Lallemand-Moe states, the first iterations of seasteads would probably not navigate the oceans or be mobile.

Even if navigating was not a problem for seasteads, classifying them as a ship would bring out another issue: if seasteads are classified as ships or vessels, then they would need a state-owned flag. After all, every ship needs a flag to cruise the high seas (Strauss, 1984). Lallemand-Moe (2017) recalls that flags define the nationality of ships and that the Law of the Sea reads that states should have a genuine link

with the flag they navigate (UNCLOS, 1982:Art. 91). Ships are also required to follow the regulations of the country whose flag they sail with (HG, ND; UNCLOS, 1982:Art. 92). Marty and Borders (2011) and Hickman (2012), former researchers at The Seasteading Institute, suggested that 'shipsteads' could be flagged in a country with favourable regulations. This is a practice called 'flag of convenience'. However, Lallemand-Moe (2017) and Bell (2017), both lawyers, were doubtful of the likelihood of success when using a 'flag of convenience' to establish a seastead in international waters. Both authors agreed that flags of convenience would not make seasteads autonomous. In any case, for flags of convenience to apply, the platforms would need to qualify as vessels (Lallemand, 2017). Not having a flag would not be a viable option either, since having a flag is the difference between being and not being a pirate. These legal problems, added to the cost of construction,<sup>25</sup> ultimately led to The Seasteading Institute's change of strategy for attempting seasteads in international waters.

Given legal challenges, eight years before the Memorandum of Understanding with French Polynesia, a marine lawyer suggested to P. Friedman that the Exclusive Economic Zone of small island nations could be a suitable space for seasteads. With all these points against seasteads, Friedman & Gramlich (2009:89) began considering territorial waters as a place for platforms without sovereignty, but with some autonomy. Following it, in 2011, Mutabdzija & Borders (2011b) and Marty and Borders (2011), outlined the legal and institutional benefits and strategy for creating seasteading-inspired maritime Special Economic Zones. In these maritime Special Economic Zones, seasteaders would negotiate with host nations, exchanging

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<sup>25</sup> The Seasteading Institute (2014) wrote that building for shallow waters in territorial seas is much cheaper than constructing large breakwaters in the open ocean. From an engineering standpoint, shallow waters make projects significantly cheaper than international waters, since they do not need to deal with high waves.

revenue, investment and expertise for a location, political autonomy and legal certainty.

Being an enclave nested within the territorial waters and legal framework of a nation-state, as the Floating Island Project sought to be, would mean being close to the coast. It would also facilitate trade with shore. Furthermore, it would entail having protection from other nations, from pirates and avoiding bureaucratic procedures for seeking international autonomy or recognition from other nations (Mutabdzija and Borders, 2011a). SeaZones would, then, be planned as floating enclaves legally and physically nested within the territorial waters and jurisdictions of states. As Lallemand-Moe (2017b) explains, creating politically autonomous communities on the high seas seems too complicated with the current state of international law. However, creating Special Economic Zones in the aquatic area of a state or an autonomous collectivity such as French Polynesia is more realistic.

The maritime Special Economic Zone of The Seasteading Institute would have a special regulatory framework on top of these protections. Mutabdzija and Borders contemplated a single purpose corporate vehicle or offshore corporation which managed such Maritime Special Economic Zone. In the Floating Island Project, this vehicle would become the SeaZone Authority. This is how The Seasteading Institute decided to take an incremental approach from SeaZones to seasteads. Seasteading would start in the territorial waters of a nation-state. With time, it would then move far away from the coast. As Quirk (2018b), a contemporary, yet foundational seasteading author, conveyed, SeaZones are an incremental step to more freedom on seasteads in the high seas (TSI, 2015). The plan seemed simple: a state would physically enclose and legally frame the first seastead. A Former Executive Director of the Institute wrote:

At our 2015 Board of Directors meeting, I received unanimous approval to press forward with our Floating City Project. Specifically, we all agreed that the strategy to secure an arrangement with a coastal state to host our development, while authorizing the seastead to have administrative control over its own affairs, is the quickest most realistic path forward to developing the first bonafide seastead.

(Hencken, 2014)

Since 2012, five years before the Project in French Polynesia, The Seasteading Institute began searching for a host nation. The incremental strategy from maritime Special Economic Zones - today called SeaZones - to seasteads would come with a compromise between the ideal legal regulatory framework inspired by seasteading and other regulations which nesting within states can allow.

While territorial waters seemed to offer a more straightforward path, some foundational authors of seasteading, such as Mutabdzija and Borders (2011b:17), highlighted that some seasteaders would find territorial waters the least appealing location. This is because, as Patri Friedman (2009) explains, this deal involved complying with policies not entirely focused on liberty. Yet, as Mutabdzija and Borders (2011b) explain, such an arrangement could potentially accommodate seasteading ideals while working with existing regimes. For Friedman and Gramlich (2009:29), projects in territorial waters would, at least, lead to the normalisation of the concept of floating communities on the ocean. Overall, The Seasteading Institute saw the benefits of such a compromise, as a legal strategy for progressively gaining political autonomy. About this, the Institute wrote: "A coastal nation may be interested in offering to host a floating community in their territorial waters and allow substantial

political independence in exchange for economic, social, and environmental benefits” (TSI, 2014:7). Delta-Sync explained the incremental strategy from SeaZones to seasteads with the following nature analogy:

Some species, like salmon, spend their infancy in calm and protected waters and migrate towards the seas as they grow stronger. Analogously, a seastead is most likely to start in protected waters. After acquiring sufficient size and strength, the seastead will make its way to deeper waters, and finally the open ocean.

(Delta-Sync, 2013:45)

Keeping the incremental strategy and the compromise in mind, The Seasteading Institute’s (2014) search preferred countries with Special Economic Zones, Open Flag Registries and Free Trade Zones. These countries would seem more willing to create laws to favour foreign investment and to “franchise sovereignty” (TSI, 2014:30). In a nutshell, the shift from seasteads in international waters to SeaZones nested within the regulatory framework of a host nation was strategic. Nesting within a state was seen as a step for seasteading in international waters (TSI, 2015). Years later, this idea became the starting point of the Floating Island Project in French Polynesia, in terms of strategy and the tensions that came with it.

For instance, Friedman & Taylor (2010:10), referring to Strong & Himber (2009), wrote in relation to the strategy: “Many third world governments, for example, create or allow entrepreneurs to create “free zones” with rules different from those of the broader polity”. However, I claim, this ‘foreign’ type of framing is problematic. Chapter Seven shows how this kind of thinking, one where late-development countries are seen as places without local stakeholders, desperate for giving away their self-

respect in exchange of economic development, did not help in making the Floating Island. This is because SeaZones would need to navigate nested domestic and international regulatory frameworks, and more.

The following section shows how some assumptions which led to the incremental SeaZone-to-seastead strategy do not hold. For example, Mutabdzija & Borders (2011a, 2011b) explained that projects within host nations would not be a need to deal with international law in the same way as seasteads. On the contrary, the next section shows how both, international and domestic, institutions which are part of the Project's nested structure, would frame the Floating Island Project's SeaZone too.

### ***5.5. Domestic and Supranational Institutions***

In this section, I provide examples of how nestedness explains the institutional and regulatory structure of the Floating Island Project. I first focus on the SeaZone Authority, and I then give two examples. One example concentrates on the physical aspect of the Floating Island. It shows the institutions and regulations of its nested framework. Another example is health. From health, I highlight the institutions of the nested framework but also their regulations.

As I discussed in this chapter's introduction, the smallest institution within the Project's nested institutional framework would be the SeaZone Authority (Quirk, 2018b). Blue21 (2017) explains that this private entity would be in charge of governing in the 7.500m<sup>2</sup> of the Project's area. It would be the "one-stop-shop" for every administrative aspect of the Floating Island. For instance, Blue Frontiers (2018e:28) explained that the SeaZone Authority would be in charge of the rules, design, construction, selling and development of the floating infrastructure. It would additionally organise the provision of goods and services for companies and

residents of the SeaZone, including cable and utilities (Blue Frontiers, 2017c). Moreover, this lower level in the nested structure would monitor the marine environment, searching for the adequate physical, biological and chemical parameters in the water, such as levels of oxygen, nutrients and PH (Blue21, 2017). Additional roles would include privately mediating conflicts, solving disputes and managing the only medium of exchange accepted for services within the Island, the Project's 'currency', Varyon (Blue Frontiers, 2018e). Blue Frontiers would also become the central provider of utilities, cable, infrastructure and even financial transactions (see Blue Frontiers, 2018e).

As this distribution of tasks suggests, one-Stop-Shop approaches in Special Economic Zones imply that one organisation manages an entire Zone. The World Bank (FIAS, 2008) recommends one stop-shop approaches as an established best practice for effective Zone management. This is because having only one entity in charge of a Zone's administrative processes creates less bureaucratic procedures for businesses and tenants seeking to establish or invest in them, compared to elsewhere in the country (Frazier and McKinney, 2019b). However, the World Bank recalls that when the same authority is in charge of operating and monitoring a Zone, this leads to conflicts of interests (FIAS, 2008:6). Indeed, while having one Authority at the smallest level of the nested structure is usual among Zones, the Project took the idea further. In some ways, it even contradicted the 'decentralising governance' ethos where the Floating Island originated. In a way, the Project suffered from the irony of centrally planning governance decentralisation. The idea that Blue Frontiers would centralise every aspect of the Project seemed dissonant with the Project's original intention of replacing centralised states for decentralised markets. Nevertheless, this is how the Company leading the Project foresaw the smallest

institutional level of its nested structure, the SeaZone Authority. The Project's floating buildings would also show the concept of nestedness in the Project's governance.

While Blue Frontiers would manage buildings in the Floating Island, the Project required authorisations from government institutions to generate exceptions to standing regulations for sustainable technologies. For example, the Project sought autonomy to provide for utilities and infrastructure privately. An Energy and Water report analysed the possibility for the Floating Island to desalinate its own water, manage its own waste and produce its own energy (Blue Frontiers, 2017c). In addition, this report explored off-grid options, such as energy micro-grids and closed-loop cycles for waste management, involving water desalination and rain-capture. For this to be possible, the Project needed to have French Polynesia's approval. The legal study mentioned that French Polynesia is in charge of utilities. It added that the Office of the Environment, following the guidelines of the Environmental Code (CDE, 2017), enforces the regulations. This Code is framed by regulations of France. Similar authorisations were needed for floating buildings and every other aspect of the Project which was not currently allowed by French Polynesia.

The first regulations to consider concerning floating buildings were those framing the possible location of the Floating Island, a Tahitian lagoon. Lallemand-Moe (2017a) explains that lagoons are part of the territorial waters of French Polynesia. Therefore, as other water bodies in French Polynesia, they are part of its maritime public domain<sup>26</sup> (Loi 2004-192:Art. 47; Loi 94-631; CC, 1994; APF, 2014). For Lallemand-Moe (2017a), an Island floating in Polynesia's public domain would have meant that

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<sup>26</sup> The original text in French, as it appears on Article 47 of French Polynesia's Statute of Autonomy, reads: *"Le domaine public maritime de la Polynésie française comprend, sous réserve des droits de l'Etat et des tiers, les rivages de la mer, y compris les lais et relais de la mer, le sous-sol des eaux intérieures, en particulier les rades et les lagons, ainsi que le sol et le sous-sol des eaux territoriales"*.



the floating part of the Project would fall under Polynesian competence. Similarly, the legal study pointed out that being part of the public domain means that lagoons belong to and are managed by the state. Therefore, it is the Assembly that regulates and authorises developments, leases, occupations and concessions in Polynesia's public domain (see: Loi 2004-192, Art, 91; CM, 2015s8: Arts. 4-5). Nonetheless, the legal study highlighted that, with the existing institutional framework, the Project would have also required approval by the mayor of the commune and the Ministry in charge of finances and valorisation of the public maritime domain, as the Statute of Autonomy of French Polynesia states (Loi 2004, 192, Art. 50).

The study added that, given the potential environmental impact of the Project, it additionally needed approval by a commission formed by other domestic government stakeholders, including the minister and director in charge of land affairs, the head of the urban planning department, the director of the environment department, the president and other competent authorities (CM, 2015; Loi 2004-192: Art. 6). But because oceans are regulated by the Environmental Code of French Polynesia (see Loi 2017-25; CDE, 2017; CM, 2018b), the Project also required approval by other domestic government stakeholders, such as the Council of Ministers of French Polynesia, the entity which oversees the Code's compliance and the protection of the environment. All these examples illustrate how we are dealing with a nested system and, therefore, that the concept of nestedness is useful to understand governance in the Floating Island. Indeed, not only the Floating Island required French Polynesia's approval by default, it also needed approval by a lower level in the structure, the municipality. Without such approval, Polynesia's endorsement would likely not matter. The same applied to 'higher levels'.

I previously explained that one way in which nestedness manifests is in how different levels in the nested structure communicate and shape each other. Here, for instance, one function of the Council of Ministers of French Polynesia, as the Environmental Code states, is making sure that environmental practices comply with international treaties signed by France. But because France is framed by the European Union, regulations of the European Union that apply in French Polynesia would have applied too in the Project. The legal study made particular emphasis in the existence of regulations referring to rights of the ocean which ratify conventions of the United Nations (Loi 95-1311, 1995). Perhaps, the Project's maritime aspect would also be framed by regulations that González (2015:12) mentions would apply for seasteads. These include regulations of the International Maritime Organization and regulations from the International Maritime Committee such as the La Haya-Visby rules. González further mentions the International Convention for the Safety of Life at Sea (SOLAS, 1974) and the International Convention on Salvage (IMO, 1989).

Two additional environmental documents mentioned in the Memorandum of Understanding (2017) would introduce other international government stakeholders into the Project's governance structure. These were the documents ratified by countries of the Pacific regarding climate change, such as the Declaration of the Ocean, Te Moana O Hiva and the Taputapuatea Declaration on Climate Change, P.A.C.T. -Polynesian Against Climate Threats (Polynesian Leaders Group, 2015; Blue Frontiers, 2018c). Although these were non-binding, they hold significant cultural weight in French Polynesia and the Pacific.

Health regulations also reflect the nested institutional framework of the Project and its corresponding regulations. According to the literature of seasteading dated before the Floating Island, health regulations would be important for these projects because

many seasteading enthusiasts see the ocean's extraterritoriality as a means to experiment with new medical treatments with fewer or no regulations (Quirk, 2017: 221; Hunter, 2018). Authors such as Quirk (2017:222) explain that treatments using stem cells could benefit from places with more flexible regulations, cheaper costs and more competition. Others, such as Joffe (TSI, 2012), state that medical tourism will be one of the most promising businesses on seasteads. While researchers at The Seasteading Institute (see: Marty & Borders, 2011) suggested that the first iterations of seasteads should not focus on medical tourism to avoid tarnishing their image, they argue that medical tourism, biotechnologies and pharmaceuticals would be among the industries which could most benefit from the ocean's extraterritoriality.

Had the SeaZone sought to be autonomous in health aspects, these would have been framed by domestic health regulations of French Polynesia, France and the European Union. The legal study noted that the European Union would have framed the SeaZone regarding imports, exports and production of medications for humans, regulations for preventing illness and dealing with cross border threats (see: EU, ND). It would have additionally been framed by World Health Organisation regulations (see WHO, 2017, 2019). Given that France has signed and ratified several international health treaties, the legal study noted that the Project would have been framed by United Nations conventions too, such as the Convention on Narcotic Drugs (UN, 1961) and the Oviedo Convention of 1997. The existence of institutions within institutions which would have regulated the SeaZone show how the concept of nestedness can be useful to describe the governance structure of the Floating Island. More importantly, it contributes to seeing some implications of dealing with nested systems. I describe some of these implications in the next section, relating to regulations being ambiguous and "tangled".

### **5.6. *Untangling Regulations***

As complex governance authors argue, The existence of multiple institutions and their regulations would imply that some of their regulations are tangled. In the Project's nested framework, tangledness is visible in two main ways, in the existence of ambiguous jurisdictions and in the regulations framing the Floating Island, which it had to simplify to create new regulations or exceptions. Creating new regulations or exceptions constitute "untangling". Both reasons, ambiguous jurisdictions and networks of regulations, can be traced back to the framework comprised of multiple institutions and their corresponding regulations. This is because it is nestedness and multiple, overlapping levels of institutions what makes jurisdictions and regulations be this way.

Tangled regulations would have existed for each aspect of the Project. But untangling would have been more important in the cases where the Project sought to be most innovative, such as its floating and Zone components. It was inescapable not to untangle regulations for these parts of the Project because, as Stopnitzky et al. (2011) suggest, without a special regulatory framework, there would be few reasons for placing a seastead in territorial waters. Likewise, without a part that floats, then there would have not been any difference between the Project and traditional zones on land. Moreover, the Project, as originated in The Seasteading Institute, was seen as a step towards the normalisation of the seastead concept. Having special regulations would also be necessary to attract the demographics the Project targeted as residents. Here I provide examples of regulations which the Project would have to untangle.

Immigration and residence permits were aspects where the Project would likely seek for special regulations. Simple residence processes would attract the type of digital

nomads, entrepreneurs, tech companies and real estate investors that have shown interest in seasteading since its inception. Evidence that these were the traditional supporters of seasteading includes the result of a survey by The Seasteading Institute (2014). The survey positions good internet connection as the top priority when moving to a seastead. 60% of people who answered this survey were between 18 and 29, 55% of them were from the United States, 70% were not married, and 82% of them had no children. Additionally, the top words that appeared in the profession answer were: student, engineer, software, consultant, entrepreneur, web developer, manager, programmer and marketing. Moreover, with regard to living space size preferences, the survey shows that the highest-ranked is approximately 27m<sup>2</sup>. This is the size of a small, efficient apartment for a single person. The second voted option was 55m<sup>2</sup>, the size of a one-bedroom apartment. These characteristics and the traditional seasteading demographics of seasteading supporters (see Simpson, 2016) are reasons to state the Project would search for easy residence permits. Obtaining French Polynesia's approval for easy residence suiting these demographics required navigating and untangling a network of domestic and supranational institutions.

Today, obtaining residence permits in French Polynesia is a very bureaucratic process. As most with places in the world, residence permits are given to those studying or working in a specific company or institution. The legal study conveyed that the Council of Ministers of French Polynesia is the entity that approves all work permits (Loi 2004-192, Art. 91) and follows regulations of the Labour Code (CM, 2011b). The Council of Ministers forms a domestic institution, meaning that the Project required domestic endorsement. However, as I pointed out in the section of Polynesia's colonial history, it is not uncommon that jurisdictions involving French Polynesia and France are ambiguous. Indeed, Article 14 of Polynesia's Autonomy

law (Loi 2004-192) states that France is in charge of immigration. Thus, while the Council of Ministers approves work permits, as pointed by the legal study, these fall within French jurisdiction too (PM, 2010). Creating exceptions to existing rules, or new ones for the SeaZone, in terms of residence and immigration required dealing with this unclear scenario. Once the Project had French Polynesia's approval, it would have had to negotiate with France. Obtaining France's approval would have taken longer than the Project's 2020 goal.

The situation would not have been different for real estate investors of the Floating Island. The legal study noted that foreigners seeking to buy real estate in Polynesian islands need authorisation from the Presidency (see APF, 1996; CM, 2011a). This would have added more regulations to untangle because the whole idea of a special Zone is that it has regulations that are easy. The topic of taxes presents its own issues to untangle.

Regarding taxes, the Project never publicly confirmed that it would benefit from different tax regulations, although it did mention it in some of its marketing materials (Blue Frontiers, 2017c). Likewise, the Memorandum of Understanding asked The Seasteading Institute for its suggestions on tax policy. It is the most common practice that Zones exempt or reduce tax loads for companies and residents for some taxes such as property, income, customs, duties and even services for financial transactions. For the Project's tax framework to position the Floating Island as globally competitive, the Project would likely follow what every Zone around the world does: exempting companies and residents from what in French is called "contributions" of the host country. Some examples of existing French Polynesian contributions mentioned in the legal study were salary, wage and pension funds (see APF, 1994; APF, 2012ACGI, 2019), maternity leave and unemployment programs

(CC, 2003). During the data collection process, Polynesia regulated contributions, taxes and customs (Loi 2004-192; Arts. 20, 23). The legal study mentioned some present-day tax exemptions in Polynesia (see CGI, Art 211) for real estate (see CGI, 4B, APF, 2012b) and income taxes (see CDI, Art. 178). Likewise, the study pointed out that exceptions applied to some productive investments (see Loi 2003-660). Specifically, those advancing the country's development (see CDI, Art 112) or involving priority sectors for the economy (see Loi 86-824, 1986), such as hotels and tourism (see Loi 2004-192; Loi 2014-12). Polynesian lawyer Lallemand-Moe (2017) asserted that tourism taxes could be abrogated with little hesitations for the Floating Island because tourism is the primary source of revenue for Polynesia. The lawyer stated that many hotels already enjoy favourable tax arrangements (APF, 1995) and even subsidies. But this does not mean that taxes would not be subject to what I here refer to as untangling.

For the above-mentioned tax exemptions, the Project required French Polynesia's Council of Ministers ratification (CGI, Arts. 911-913). Nevertheless, overall, taxes, customs, and investments in French Polynesia obey the French Tax Code (CGI, 2019a24:Art. 199; Loi 2004-192:Art. 7-8), given that France regulates economic aspects. However, France is not entirely autonomous either because it sits within the European Union, and, as the legal study mentioned, France adopts European Union regulations (EU, 2012O26:Art. 198). Therefore, the Project's framework would have been required to navigate regulations by several institutions in order to create the regulations and exceptions that appealed the Project's supporters and that would make the Zone competitive. Now, as Moberg (2015a) writes, taxes alone do not make a Zone successful. Frazier and McKinney (2019b) stress that it is, instead, the quality and stability of a Zone's regulations and institutions. Nonetheless, Moberg states that exempting companies (and residents) in a Zone from paying taxes is the

baseline to make a Zone attractive towards investment. The concept of untangling also applies for granting the Floating Island Project the overarching Special Economic Zone title.

Like tax exemptions, Free Zones are a type of Zone framework which already exist in French Polynesia. The legal study indicated that these Free Zones comprise "any territorial enclave established for the purpose of having the goods located there considered as being outside the customs territory" (CDD, Art 286). Lallemand-Moe (2017) argued that the Free Zones in French Polynesia provide a precedent for the SeaZone. Because they already exist, he explained that the Assembly could legislate a Zone framework for the SeaZone with existing regulations. This could include more flexible labour regulations given to touristic areas. It could additionally comprise more flexible regulations for immigration and public services, because it is the Polynesia, not France, which approves Free Zones (see CCD: Art 2). Nonetheless, this Polynesian lawyer highlighted difficulties for creating such Zone on the water in the absence of a legal precedent.

Regarding the floating part of the Project, French Polynesia is known for maritime hotels on stilts. Polynesia has regulations for floating dwellings. These dwellings comprise ships or structures that float and are intended for habitation (Vice-président, 1983, Art. 2). Usually, they are home-boats. Indeed, in 1983, floating dwellings in French Polynesia were not allowed, as stated by a government order of August (Vice-président, 1983). In July 1994, a new order established that placing them would entail a temporal occupation of public the domain. People who did this would be fined. However, in 1985 floating dwellings were allowed in Bora Bora (CM, 1985c). Bora Bora is today one of Polynesia's most touristic islands. The condition was that the company in charge of them would keep them pristine and that they



would not contaminate the environment. Later in 1987, the Council of Ministers allowed floating dwellings in the Touamotu archipelago. These precedents suggest that the country could create government orders which allowed floating constructions such as the Floating Island. However, Lallemand-Moe (2017a) conveyed that, while French Polynesia has competence for deciding about floating dwellings and for developing artificial floating islands, building inside the maritime area of the SeaZone would be more challenging. This is because, as pointed out by the legal study, the Management Plan of Maritime Space of Polynesia does not cover the lagoons. On the other hand, French Polynesia's ocean is part of its public domain and private individuals cannot own the public domain (Lallemand-Moe, 2017a). This is a similar problem to that encountered by seasteads in international waters, consisting of not being able to occupy a common heritage space.

Again, Atimaono was never confirmed as the final location. However, it was the location that first appeared, and appeared the most, in the design materials of the Project (see Blue Frontiers, 2017d). Moreover, it was the place of work or recreation for many of the Polynesians who protested the Project. To place the Floating Island in this lagoon, the Project would need, either to create exceptions to regulations regarding Polynesia's maritime public domain, or create new rules which do not currently apply for this lagoon. As pointed out in the legal study, these could include the management plan and cadastre registration documents. Other regulatory issues that needed to be untangled related to the land area of the Project.

Land areas near the Floating Island, called anchor zones, would be fundamental components of floating special jurisdictions. According to Bell (2017b), anchor zones would serve as physical and legal transition points, from earth to water and from the regulations of the host nation to those of the SeaZone. One potential anchor zone in

the Atimaono lagoon was zoned to propel the economic development of the country (Loi 2014-32). This, in principle, made Atimaono compatible with the economic goals of the Project, as Blue Frontiers' co-founder, Collins Chen (TNTVb, 2018) told the press. However, during the data collection process, existing regulations made Atimaono incompatible with innovative some financial activities the Project sought. During the planning phase of the Project, regulations restricted activities to only include golf, tourism, archaeology, culture, leisure, relaxation, small commerce or agriculture (MPF, 2018; CM, 2009; CM, 2010). Hence, to create a SeaZone which could offer “a special governing framework allowing the creation of the Floating Island Project located in an innovative special economic zone” (MOU, 2017:7), more regulations needed to be untangled. Regulations which forbid drastic modifications in the landscape were among them (CM, 2010: CM, 2019b: 114) and they brought additional challenges.

This is because, during the Project's planning phase, coconuts populated Atimaono. Lead architect of the Floating Island, Roeffen (2018), expressed that in designing the Floating Island, his intention was to build something that did not look like an alien invasion (Marris, 2017). For this reason, Blue21's design of the Floating Island resembled traditional Polynesian cultural elements. The design looked like an island from shore, it was shaped as Maoui's hook from above and villas alluded to Polynesian traditional canoes, called va'a. Despite the Polynesian-inspired design and the integration of this one with the current landscape, the Project still required approval by the local regulatory body of the commune, L' Etablissement pour la Gestion et l'Aménagement de Teva, by the Office of Agriculture. The legal study noted that this Establishment regulates the communes of Papara and Teva I Uta, oversees zoning, and authorises the construction, financial plans, land valorisation and real estate property developments in Atimaono. The Project also required

approval by the Minister of the Economy, Finances, Large Projects and the Blue Economy. At the time this was Vice president Teva Rotfritsch. Thus, for the Floating Island to be placed in Atimaono, and to have an anchor zone near the lagoon, the Project would be required to navigate institutions involved in the Zoning of Atimaono, as suggested by the legal study, and to untangle the regulations which would have applied to it (see APF, 1985; CM, 2014jl5), in both land and water.

### ***5.7. Additional Government Stakeholders and Limitations of Formal Strategies***

I want to discuss two other government stakeholders in the nested, complex governance structure of the Floating Island Project, namely the United States and China. Unlike examples of previous sections, these two countries would be part of the Project's nested governance structure as a result of Blue Frontiers wishing to manage governance in the Floating Island using the Project's cryptographic token, Varyon, and not because of Polynesia's colonial history. In order to follow internationally known and influential cryptocurrency regulations, the Company opted to abide by United States and Chinese regulations. This section shows the n-dimensional structure of nestedness in complex systems. This is because the use of a cryptographic token in the Project created another, parallel, nested framework. We can argue that, once regulations were untangled, each of the aspects in which the Project had its own regulations could be seen as nested within a particular set of institutions because different regulations would apply for each aspect. For example, regulations about institutions in the nested framework for health would not be the same as the institutional structure for financial transactions. However, it is possible to generalise, as I have been doing here, by pointing out the main actors. In the next chapter, I discuss the uses of Varyon and its implications; Here, I discuss some regulations framing it.

As I mentioned above, the United States and China would be part of the nested structure because Blue Frontiers decided that the Varyon sale followed the regulations of the Securities and Exchange Commission (SEC) of the United States. For United States citizens, investment contracts and taxes, independently of their residence, fall under this country's jurisdiction (See: Clayton; 2018, SEC, 2013; Securities Act of 1933). Only accredited investors can buy securities in the United States. This is important for the case study because, during the Varyon pre-sale, in the first two quarters of 2018, the Securities and Exchange Commission of the United States prosecuted several tokens crowdfunding through Initial Coin Offerings<sup>27</sup> because these resembled securities or investment contracts, and were selling to non-accredited investors. To protect itself, Blue Frontiers (2018e) decided that United States citizens could not purchase Varyon unless buyers were accredited investors. In the Varyon purchasing document, Blue Frontiers warned against future categorisation of Varyon as a security:

Blue Frontiers does not take a position and cannot predict whether Varyon tokens will be regulated as securities in the hands of Purchaser. Purchasers are solely responsible for complying with all applicable laws of all applicable countries with respect to any transfer or sale of Varyon. Blue Frontiers has no plans to register Varyon as a security.

(Blue Frontiers, 2018e:36)

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<sup>27</sup> An Initial Coin Offering is similar to when investors buy shares of a company in Initial Public Offerings -IPO (Bitcoin, n.d). However, the main difference is that Coin Offerings sell tokens and public offerings sells shares. Moreover, coins live in a distributed ledger technology or blockchain. For a comprehensive account on what is blockchain and what it enables, the work of Mélanie Swan provides a very good introduction (Swan, 2015).

While such a clarification was legally relevant in the context of the pre-sale, framing the Project with these regulations limited the pool of buyers. Given that, historically, at least 55% of seasteading supporters were United States citizens (TSI, 2014), this might have been one decisive factor for the pre-sale's lack of success and in the cancellation of Varyon, a leading moment in the Project's fading. This idea shows how the nestedness concept is useful here, for it can explain the communication that takes place among various levels of the structure. The previous example involving Varyon and pool of buyers shows how a "lower level" in the nested system (the Project) connected to an "upper level" (the United States) and how the United States also constrained the lower level in the nested structure. However, as a way of further analysing the implications, an additional factor in the sale's failure might have been what I refer to as the 'tension of decentralisation' in nested systems:

Varyon's goal was decentralising governance, according to Blue Frontiers (2018h). Yet, the Company tried to comply with regulations of the Securities and Exchange Commission. Calling back to Jessop's (1997:1) definition of complex governance, one where parts and whole are autonomous but interdependent, we can speak of a tension in some nested governance systems for how larger levels influence, shape or limit smaller ones. But the relationship goes both ways. Here, the same regulations which constrain governance innovations, such as cryptographic tokens, are the same reasons used to back their creation and proliferation (see: Nakamoto, 2008). Similar implications apply for the Project's decision to bring Chinese regulations to the Project' governance structure.

China, indeed, was the other state which Blue Frontiers took into account for the Varyon pre-sale. Chinese blockchain regulations (CAC, 2019) give the Chinese government control of everything published on every blockchain. It can delete, ban

and prosecute, based on its anti-anonymity norms. This has not stopped cryptocurrency transactions in China. However, it did lead Blue Frontiers to forbid Chinese citizens from buying Varyon. About this, the Company wrote: “We welcome buyers from all over the world excluding China. US buyers must be accredited” (Blue Frontiers, 2018e:13). Velasco (2018) explains the role played by the United States and China in the Varyon pre-sale with his argument that the cryptocurrency industry is shaped through friction with regulatory agencies. Here, this space is shaped with tensions, not only because of the novel nature of cryptocurrencies, but also because they exist within larger systems with more established governance systems, namely states. However, these two would not have been the other two governments part of the Project’s structure for reasons not related to Polynesia’s colonisation.

The model of ‘peer countries’, a term defined by Bell (2018) and mentioned by Quirk, was an additional way in which regulations by other international governments, disconnected to Polynesia’s colonial history, would have framed the Project. In Quirk’s words:

We and future host countries will define a Peer Group of countries from among the most peaceful, prosperous, and well-run nations on earth. Those Peer countries will provide the regulations for the SeaZone. How much freedom will we have? If an activity is illegal everywhere in the Peer Group, it won’t be legal in the SeaZone. If one member of the Peer Group dissents, and has demonstrated that a certain freedom works out fine in their country, it will be legal in the SeaZone. That way the SeaZone will be maximally inclined toward business and personal freedom.

(Quirk, 2018b).

Having peer countries as a legal reference would mean that for each aspect included in the SeaZone Acts (labour, customs, immigration, etc.), the Project would adopt regulations from places different from the institutions already its complex governance framework, such as French Polynesia and France. This idea of having different regulations of different countries for each aspect of the SeaZone brings out the n-dimensionality of the Project's regulatory framework, and it would have made the governance structure of the Project nested in more ways. Even if other states would not have enforcement power in the Floating Island Project, this would have added more formal government stakeholders and their corresponding regulations to the Project's structure. Indeed, in the context of complex governance, some authors speak of constraining, but others, such as Jessop, speak of shaping. These two are not exclusive. Ultimately, what matters is that the 'peer countries' would mean more tangledness in the governance structure.

My focus in this chapter has been formal stakeholders: states, regulations, institutions and governments. In one way or the other, each of them constitutes an existing national or supranational form of governance. This is because my starting point was the studies strategy of the Project, especially the legal study. As I explained in Chapter Three, there were two main strategies to make the SeaZone. The first strategy consisted of submitting studies to the government for implementation by the Assembly. This one was the starting point of this chapter. Therefore, the reason why I discussed formal stakeholders here is that the studies to set up the SeaZone targeted formal stakeholders.

While addressing formal stakeholders was necessary, I recognise that focusing only on formal stakeholders is problematic in the light of what authors of complex governance argue regarding the multiple and diverse types of actors involved in

governance, from states to NGO's, companies and other type of policy-makers. This is because legal regulations and formal, government stakeholders do not capture the implications of dealing with institutional nestedness. As I exposed when explaining the implications of nested complex systems, understanding the structures of social systems as fixed and top-down does not really reflect their nonlinearity. In practice, this means that government stakeholders and regulations do not represent the complexity of what and who they regulate. Why? Behind history, jurisdictions, regulations, institutions and governments, there are people. Government documents and regulations might refer to formal stakeholders, the territory and its uses. They might even mention people. This was the case, for example, with regulations zoning Atimaono for golf, tourism and agriculture. However, regulations do not directly involve the people using this lagoon daily, either for work or for recreational purposes.

Therefore, legal strategies and formal stakeholders are insufficient to engage with the users and informal stakeholders of the desired location. Projects like this one are extraterritorial enclaves with both legal and physical components. Therefore, strategies for creating these special jurisdictions should not assume that the physical aspect and the stakeholders in it are dealt with through the legal one. Ultimately, this means that the Floating Island Project's physical component required buy-in from locals of the municipality and future neighbours of the Floating Island, not only approved regulations and the government. Users of the beach are an example of informal users that were not accounted for by the formal strategies. Had the final location been Atimaono, then it would have been specifically Atimaono fishermen and women, neighbours or residents of Teva I Uta, Papara and Tahiti those informal users. After all, all of these different stakeholders who used the beach for work and



recreation embodied the key informal stakeholders that the Project needed to engage with to create local grassroots support.

I, therefore, claim that 'Informal' stakeholders, such as neighbours of a project are a core component of their institutional nested systems. It is virtually impossible in democratic regimes not to deal with them. This applies even in projects with an active international audience like the Floating Island. Informal stakeholders complement formal ones. As the next chapters suggests, in many cases, they are of much greater importance. Duit & Galaz (2008) highlight this value of informal stakeholders by explaining that interactions in complex systems are nonlinear. Thus, while on paper rules might exist, informal relations might have primacy in the long-run. Cilliers work compliments this idea; he writes:

alternative routes of communication are vital in order to subvert hierarchies that may have become too dominant or obsolete. Cross connections may appear to be dormant for long, but in the right context may suddenly play a vital role.

(Cilliers, 1998:7).

That is to say, having to deal with formal and informal stakeholders is an implication of nestedness which accentuates when considering Gerrits (2012) and Klijn and Koppenjan (2015) perspective about institutions. These authors' view them as sets of semi-stable relation patterns within a network and argue that governance is driven mainly by informal networks. According to the likes of Gerrits and Klijn and Kppenjan, the strategy of the formal studies to make the SeaZone, one that addressed hierarchical jurisdictions, regulations, institutions and government stakeholders, was

consistent with existing formal structures but lacked informal relations in French Polynesia.

The Floating Island Project should arguably have involved many more informal local stakeholders with continuous public grassroots or community engagement strategies paralleling the studies. Most importantly, the Project should have come up with ways in which the Project would directly involve and benefit Polynesians. Public community engagement strategies meant for involving and planning for local informal stakeholders generate honest grassroots movements. The Environmental Code of French Polynesia mentions something along these lines. As highlighted by the legal study, such Code states that the community should provide inputs in projects with environmental impact. However, other than a partnership with the Polynesian Non-governmental organisation FAPE (LaDepeche, 2017), there is no sign of the Project doing anything public like this. This partnership, in any case, ended when the Polynesian woman who worked on both organisations (Tahiti-Infos, 2017) walked away from the Project and was, subsequently taken down from Blue Frontiers' staff website in the last quarter of 2017. The importance of informal stakeholders accentuates in the face of the notable cultural differences between the Project's participants and the desired location's. Thus, engaging, meeting, participating with and planning for the community was a must. Vallat, Chairman of the European Network of Maritime Clusters, warned at the First Seasteading Tahitian Conference in May 2017 how crucial it was to engage this demographic, saying that the culture of California was not the same to Polynesia' (Vallat, 2017).<sup>28</sup>

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<sup>28</sup> In terms of the Law of Requisite Variety which I explained in the introduction, it is possible to state that the studies' strategy of the Floating Island did not have the requisite variety necessary to move forward. From this perspective, the approach focused on formal stakeholders did the opposite. It accepted the focus of governance was made up of government rules, as opposed to more material social systems underlying them.

## **5.8. Conclusion**

This chapter explained how the Floating Island Project would have been structured as a nested system, physically and legally. I dealt with both aspects by focusing on the institutions ruling these places. The general nested institutional structure would comprise the SeaZone Authority, the municipality of Teva I Uta, French Polynesia, France, the European Union and the United Nations. The United States and China also formed part of the Project's complex governance structure, although not because of historical reasons associated with the colonisation of the archipelagos now known as French Polynesia. The chapter described this nested structure as being in part rooted within the colonial past and present of French Polynesia and in The Seasteading Institute's incremental strategy to kick-start seasteads with SeaZones. It additionally discussed the implications of nestedness in the case study, such as the Project being framed by ambiguous jurisdictions and tangled regulations. The chapter explained that in order to get approval, the Floating Island Project would need to untangle these regulations. This meant either to establish regulatory exemptions or new rules.

By dealing with key issues and institutions, the chapter showed the Project's focus on formal, government stakeholders in the studies strategy. This focus led me to highlight that the strategy consisting of submitting studies for the Assembly to deliver lacked true engagement with the nestedness of the system because a) it concentrated on targeting the Assembly for its approval and b) the regulations mention institutions and governing bodies, but there was not true focus on the people using of the lagoon. The next chapter goes deeper into the idea that to navigate nestedness more strategically, respectfully (see: de la Bellacasa, 2017), and to produce better results, it is necessary to engage with multiple levels of stakeholders, both formal and informal. This has, nonetheless, to be done with true care, with

honesty. As Puig de la Bellacasa argues, caring requires true care. And as she (Puig de la Bellacasa, 2017:198) points out when she quotes Murphy (2015), some projects masked under the “care” framework can serve colonizing goals. This thesis shows how not engaging more comprehensively and actively played against the Floating Island. For instance, the Assembly never reviewed the studies. However, there was a category of semi-formal, semi-informal stakeholders the Project addressed international stakeholders. How the Project concerned local and global stakeholders, targeting the latter to the detriment of the former, is the topic of the next chapter.

## **CHAPTER 6. LOCAL AND GLOBAL NON-GOVERNMENT STAKEHOLDERS**

### ***6.1. Introduction***

In the previous chapter, I provided examples relating to the Project's regulatory framework, which show how the governance structure of the Floating Island would structure as a nested system. I based several of the chapter's claims on existing regulations mentioned in the Project's feasibility studies submitted for the Assembly to deliver. Because of the formal nature of this strategy, the chapter discussed only formal government stakeholders. I concluded the chapter by pointing out how focusing on government and formal stakeholders does not reflect the diversity of the stakeholders involved in a nested system.

In this chapter, I no longer concentrate on formal stakeholders. Instead, my focus here is on non-governmental stakeholders. To examine them, I analyse another of the Floating Island Project's proposed key strategies. I call it the 'governance and marketing strategy'. I place these two together, governance and marketing, because a significant part of the Project's marketing strategy during the data collection process used the SeaZone's innovative form of governance to target future tenants and potential Varyon buyers. The overall marketing push of the Floating Island was such, that one ex-Blue Frontiers volunteer and former Seasteading Institute's online forum manager, Elwatoski (2019), today Ocean Builders representative, called it a 'one million dollars marketing campaign'.

My overall aim throughout this chapter is to argue that the Floating Island Project exhibited one key feature of complex governance: it concerned local and global stakeholders. As we will see, the Floating Island Project tried to engage with both. However, I suggest that the marketing and governance strategy ultimately prioritised global stakeholders and ended up sidelining local ones, much to the Project's detriment. Supporting evidence for this claim includes the lack of a Varyon purchasing document in French and superficial use of sea-level rise rhetoric in the Project's marketing.<sup>29</sup> It is not possible to claim, with absolute certainty, whether this sidelining was due to market demands. This is why I differentiate between concerning and targeting. When I refer to 'targeting', I mean a deliberate action by Blue Frontiers. When I write 'concern', I refer to an interest by stakeholders. Both concepts are similar, but they point to different directions. I discuss two stakeholders in this chapter: local and global.

By local stakeholders, I refer to Polynesians from the municipality of Teva I Uta and the rest of Tahiti. These are the present-day appropriators of the water and land areas the Project would occupy. I group local stakeholders under the broad umbrella of *Polynesians*, although I recognise that this term may impose a generalisation upon a diverse group of individuals. And while this term encapsulates the broad set of local stakeholders related to the case study, the term in itself is problematic because it has colonial underpinnings. Indigenous of *French* Polynesian islands tend not to call themselves Polynesians, but Mā'ohi. But even Mā'ohi includes numerous subcultures and languages within the different archipelagos and islands. Nevertheless, I have opted for the term Polynesians because it is the broadest, yet 'specific' category I found to include Mā'ohi and non-

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<sup>29</sup> While this thesis is not about blockchain nor software studies, the data of the Varyon token inform this chapter. It backs the idea that Project targeted global participants through the governance and marketing strategy.

indigenous natives from the islands, including descendants from first, second and third-generation immigrants born in Tahiti and surrounding islands. By global stakeholders, I mean the international participants of the project, which would buy or bought Varyon. As a further section in the chapter suggests, expected appropriators of the Project would be part of an international demographic of global project participants who survive on wifi and Airbnbs. However, all this does not mean an Ostrom's framework is not suitable for studying certain elements of the Project. As Ostrom herself explained, her principles and her theory can be applied to other scenarios involving the commons, including seemingly distant ones, such as neighbourhoods, associations, charities, gangs, and even to voting (Ostrom, 1990). Her work is even central to what is known as digital commons, which include digital systems, such as Wikipedia and the blockchain (Davidson et al., 2016:13).<sup>30</sup>

Ultimately, this chapter serves three purposes. First, it helps to grasp the idea that complex governance concerns diverse stakeholders at multiple levels. Second, it shows emerging tensions resulting from trying to establish a project like the Floating Island with digital forms of governance within a physical territory owned by and used by demographics different from the project's intended participants. This is a tension between the project's digital and spatial extraterritorialities, which I expand upon in the discussion and reflections chapter. And third, the chapter examines the potential significance and analysis of Elinor Ostrom's work for private SeaZones, such as the Floating Island.

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<sup>30</sup> Commons 1.0 refers to the commons Ostrom mostly focused on, natural resources. Commons 2.0 refers to the public domain and creative commons, such as Wikipedia. Commons 3.0 is the new iteration -blockchains. Davidson et al. (2016:13) explain why blockchains are commons. Blockchain is Commons 3.0 in that it provides a technical solution (cryptographic consensus) to the problem of cooperation in joint or group production at scale while still maintaining the benefits of commons-type (i.e. polycentric) institutional governance. A blockchain is a thrustless commons in which effective rules are embedded in constitutional smart contracts that are cryptographically secure and crypto-economically implemented. The working hypothesis is that the structure of these rules is likely to be similar to the eight 'design rules' identified by Ostrom".

Ostrom's work is important in the context of complex governance and for this chapter discussing stakeholders because Ostrom is recognised for her contributions to complex governance in socioecological systems (see Ostrom, 1990, 1994, 2005). Ostrom's publications explored the institutions, rules and roles of local and external stakeholders in the governance of the commons. 'The commons' are natural or human-made resources subject to overuse, overconsumption and destruction due to their size, geography and their open-access nature (Ostrom, 1990). Water bodies, such as rivers, lakes, oceans and lagoons, including Atimaono, the first announced location of the Floating Island (Blue Frontiers, 2017d), are examples of the commons. Ostrom's work is, therefore, suited for this case study, given the aspiration of placing the Floating Island in the Atimaono lagoon in Teva I Uta, Tahiti. Thus, an Ostromian perspective is helpful for interpreting this chapter's empirical observations.

Moreover, Ostrom's work is particularly crucial for this thesis because sea-level rise was one of the main motivations of the French Polynesian government for signing the Memorandum of Understanding (2017). This document's first point reads:

The government of French Polynesia has expressed its interest in the issues of climate change. Its contribution to the PACT (Polynesians Against Climate Threats) is the manifestation of its political commitment to consider threats to the ocean and the islands as issues of the future. The government of French Polynesia recognizes that rising waters threatens the lands, its inhabitants and their previous way of life.



In another part, the Memorandum adds: “noting that in 2016, the Government of French Polynesia invited The Seasteading Institute to present its concept of the Floating Island Project and their benefits to the islands and inhabitants of French Polynesia” (MOU, 2017:7). I bring Ostrom’s work to the forefront here to discuss the Project’s sea-level rise narrative because her work on governance of complex socioecological systems has shaped, in the last years, discussions about climate change (Johannesson, 2017) and sustainable development (Cogolati, 2016), in institutions such as the World Bank (Gallegos, 2012), the Global Commission on the Economy and Climate (GCEC, 2014) and the World Economic Forum (Delpero, 2015). Here, I use Ostrom’s work primarily to back claims about why the Project necessitated, and should have tried to get, buy in from local stakeholders, and to explore the roles of various stakeholders of the Floating Island.

This chapter proceeds with five sections. Section 6.2. discusses key elements of Ostrom’s work which are relevant for the chapter. In section 6.3., I use Ostrom’s work to explain why the Project concerned local stakeholders, how the Project minimally tried to engage with them and how it sidelined them. Section 6.4. looks at Varyon’s marketing to suggest that the target of the Project were global stakeholders. In section 6.5., I present additional examples of missed opportunities to incorporate local stakeholders in the Project’s governance.

## ***6.2. Complex Governance in Socioecological Systems***

Ostrom’s work is extensive, and it would be impossible to summarise it in one thesis section. My aim here, instead, is to identify those elements of her work which are most relevant for this chapter’s argument. The argument being that the Floating

Island Project exhibited features of complex governance. The feature in which I focus in this chapter is that the Project concerned multiple levels of stakeholders, including local and global. That said, specifically, I take three main elements of Ostrom's work: first, I look at some of her design principles discussing users and boundaries in the commons; Second, I take parts of her position on the limitations of state and market governance of the commons; third, I present some elements of her theory of collective, shared governance, and her view on privatising the commons.

Note that, in using Ostrom's work in this way, my goal is not to argue whether the Floating Island fits Ostrom's framework for governance of the commons and socioecological systems. Instead, my purpose is to explore which elements of the case study, when read from an Ostrom's perspective, contribute to explaining the concern of locals, their sidelining and problems with prioritising global stakeholders.

The first thing to note about Ostrom's work is that it focused on the institutions governing the commons. Ostrom analysed institutions because she recognises that the characteristics of the commons vary from one to another (Ostrom, 1990). Therefore, Ostrom created an institutional analysis framework for understanding institutions governing the commons, based on identifying elements and relationships within them (Ostrom, 2009: 28). Ostrom defined institutions as:

sets of working rules that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what information must or must not be

provided, and what payoffs will be designed to individuals depending on their actions.

(Ostrom, 1990:65)

This quote reflects how Ostrom emphasises on the type of users which can make decisions in the commons governance and how they relate to other types of users and their actions. Ostrom's work on institutions and the relation between use and governance allows us to see the opportunities to include Polynesians in the form of governance proposed for a part of *their* lagoon, alongside the state and market actors.<sup>31</sup> Central to Ostrom's work are her 'design principles', which discuss institutions for governing the commons. She extracted these principles from successful cases of institutions governing common-pool resources. For Ostrom, success means protection and sustainability. This is achieved through rules preventing a resource's depletion. Ostrom highlights how important it is for these rules to be coherent with the users' social and cultural environment and the physical and biological characteristics of the common-pool resource.

The first Ostrom principle useful for this chapter states that the commons needs to have clear boundaries. Boundaries are particularly important for the governance of the commons which, like oceans, are finite. The need for boundaries emerges from one of the main problems the commons suffer from: many are open-access. Being open access makes common resources are open for anyone's extraction (Schlager

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<sup>31</sup> She was aware that in situations of nested governance, governance has multiple centres. This is the idea of polycentrism. Ostrom was a strong proponent of polycentric governance systems. Polycentric systems are, indeed, those where there exist multiple centres of decision-making (Ostrom et al., 2009b). This idea connects very well with the previous chapter, in that polycentric systems tend to be nested (Ostrom, 1994:11). Dealing with nested complex governance systems entails engaging with local and global stakeholders. But polycentrism is not the main element of Ostrom which I use in this chapter. It is instead the emphasis on the local.

& Ostrom, 1992). Over extraction of natural resources tends to lead to depletion. Hence the first step to protect the commons is to establish rules that set boundaries (Ostrom, 1990).

Ostrom (1990) at first did not specify if boundaries referred to physical limits or users. However, following a critique by Cox et al. (2010), she revisited her theory and clarified that the term suggested both (Ostrom, FC2012; p.98).<sup>32</sup> Bounding the commons, therefore, means that only a set of users can extract units from a delimited physical resource. Nevertheless, bounding is difficult when the resource is open access, like lagoons - even if the lagoon is surrounded by coral reefs. Boundaries are Ostrom's *ex-ante* response to the "tragedy of the commons" (Hardin, 1968; Pennington, 2012).

The tragedy of the commons refers to a situation where resources are depleted because self-interested users take as much as they can, without considering that other users need the resources too. Because of this tragedy, Hardin (1968), who formalised the Tragedy of the Commons, argued for the need of an external structure that governed the commons and their resources, such as the market or the state. Ostrom's work debunked Hardin's assumption that either markets or states are necessary to govern the commons. More importantly, she showed how these are not only the two alternatives. Ostrom started with a key distinction:

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<sup>32</sup> In respect to this subject, Ostrom writes: "The authors (Cox, Arnold and Villamayor) then suggested a better way of framing the design principles than I had done originally. For example, when I talked about boundary rules, I did not make a distinction between a clear set of boundaries of the resource and a clear set of boundaries for the users. Sometimes systems have clear boundaries for the resources but not for the users or vice versa and, in some of the case studies that were reported, that was a problem. So Cox, Arnold and Tomas crafted and clarified three of the design principles. They distinguished between clear boundaries of the resource users (that is the membership) and clear boundaries of the resource itself (Ostrom, 2012a: 9)."

Hardin's work did not distinguish open-access commons from commons that are jointly owned by a community (Ostrom, 2008). About this, Pennington writes:

The 'tragedy of the commons' should really be described as the 'tragedy of open access'. The type of scenario discussed by Hardin refers to a situation where there are no rules governing the use of the resource. This is a very rare situation. In practice, most common-pool resources are governed by a set of rules – but the origin of these rules differs. In some circumstances they are developed endogenously by the resource users themselves, but elsewhere they are imposed on resource users by an external governing body. The debate about the relative efficacy of internally generated versus externally imposed rules is what Ostrom highlights so well.

(Pennington, 2012:25)

As Pennington notes, Ostrom brings in boundaries as a response to the open access nature of the commons. Boundaries, Ostrom argues, keep away free riders by imposing limits to who benefits and can extract units from the resource (Ostrom, 1990). They also serve to create a sense of belonging and care for the common-pool resource by those within its boundaries. This is the main idea of Ostrom I borrow for this chapter.

As useful as Ostrom's work is for understanding rules and users in the commons, there are limitations to how much certain water bodies, such as lagoons, can be bounded. This is because oceans tend to be transboundary water resources (see Dietz et al. 2003). As such, they exchange matter, energy and information with

their environments. Consequently, their resources do not stay in one location. This means that activities in a bounded area extend beyond it. For example: the boundaries of the Floating Island Project would have comprised 7.500m<sup>2</sup> of the lagoon. However, because the water and lagoon are transboundary resources, activities in that area would have not only affected what would be inside this perimeter. Neighbouring communities and the Floating Island would have shared natural resources, such as the coral reef, water, marine life, among others. This transboundary nature of resources in the lagoon is the primary and foremost important reason for stating the Project concerned Polynesians, especially those living in the municipality neighbouring Atimaono, Teva I Uta.

Ostrom's second relevant principle argues that the resource's rules should adapt and apply specifically to that resource. What this principle states and part of the reason why this principle can lead to successful governance is because individuals affected by the commons' rules voluntarily choose the resources' institutional arrangements. To clarify this, Ostrom proceeds to describe four categories of users: appropriators, providers, producers and monitors. Appropriators extract resource units and benefit from the use of the resource. Providers arrange the resource's provision and the conflict resolution mechanisms. Producers maintain the resource and the activities in it. And monitors observe and enforce. These roles can be fluid and, Ostrom (2008) explains, providers and producers tend to be in most instances the same.

The natural resource, in this case, would be the Atimaono lagoon. By resources, I mean any extractable unit from the area. These might include fish (Blue Frontiers, 2017d), energy, water (Blue Frontiers, 2017c), or others of more 'intangible' or extraterritorial nature, such as Varyon and the regulatory benefits and exceptions

which the SeaZone Acts would have included. The appropriators of Atimaono during the data collection process were Polynesians. More precisely, Polynesians living in the municipality of Teva I Uta. While Polynesians are not government stakeholders, nor formally part of the Project's nested complex governance structure, they would be stakeholders of the Floating Island by virtue of geographic proximity, present-day appropriation and resource sharing in the transboundary lagoon.

Despite Polynesian's geographical future proximity to the Floating Island Project, the Project's expected appropriators were Varyon buyers, as one of the next sections discusses. As for Blue Frontiers, the Company would provide, produce and monitor the lagoon area. This distribution of roles is why Ostrom's work is noteworthy for this chapter. One of the principle's key messages is that present-day users are the most suitable demographic to govern the commons in question because they have been appropriating them for longer (Ostrom, 2018). An Ostromian read of the Project would argue that Polynesians better represented this demographic than by Varyon buyers.

Ostrom explains that the primary reason current appropriators should decide on the rules is that they have the most local knowledge of the resource's transformations over time. They also have greater incentives for the resource's subsistence, leading them to try to find the most coherent guidelines for the provision of physical, technological and institutional infrastructure. Consequently, these individuals and groups are more preoccupied with the emergence of long-term and bottom-up conflict resolution mechanisms, embedded in day-to-day activities. In other words, these users have a sense of ownership and care. It is important to note that an Ostromian read pushes the claim further. Ostrom

advocated not only for local rules, but also for what she called “collective governance of the commons”. These collective arrangements are bottom-up institutions which emerge locally - I explain their origin below.

Throughout her work, Ostrom (2008:17) criticises how the market and the state know little about the individuals using the commons. And, therefore, Ostrom argues that neither the market nor the state are good vehicles for their governance because both lead to excessive consumption of resources in common-pool resources (Ostrom, 1994:5). Moreover, Ostrom (1990, 2005) explains that the market and the state have little incentives for the commons’ sustainability and maintenance (Ostrom, 1990; 2005). This accentuates when resources are transboundary (Ostrom, 2012:30; Giordano, 2003). This is why, seeking to overcome this problem, Ostrom’s first principle advocates for bounding the commons and why she formalised forms of governance whereby multiple individuals collectively govern shared resources.

Nationally governed by states and internationally used by companies, oceans are some of the most evident examples of overuse and lack of protection. One of Ostrom’s (2008:15) examples illustrating the state’s and the market’s insufficiency for successfully governing the commons is mentioned in a study by White and Martin (2007). The authors narrate a 1982’s decision by the United Nations (UNCLOS, 1982) to decategorise one-third of the oceans as international waters to decrease overfishing by private companies. The purpose was to address the predatory nature of fishing outside waters governed by states. Trying to limit the open-access nature of international waters, the United Nations extended the Exclusive Economic Zone of coastal states from 3 to 200 nautical miles. It expected states would protect them more than private companies. The solution was



counterproductive: fishing in territorial waters increased.<sup>33</sup> Because of hundreds of cases she studied, Ostrom (1990) concluded that successful governance of the commons tends to occur through institutional arrangements from institutions that are neither the market and nor the state (1990, 1994).<sup>34</sup> Instead, she advocated governance led by self-organised collective action institutions, with high incentives for the resource's long-term success.

In a nutshell, Ostrom argues that successful governance of the commons tends to happen when resources are collectively owned, instead of being owned by no one. She stressed throughout her career that when resources are owned by the market or the state, it is as if no one owned them, because both, states and markets, are too far from resources to have incentives to successfully govern them or to have the local knowledge needed for how to govern them best (Ostrom, 1994). Ostrom notes that, on the one hand, the state with its overarching rules does not leave space for designing rules specifically suited to each common. On the other hand, the market tends to have resource misallocations by concentrating ownership. On the contrary, a community of appropriators who are familiar with the location are better equipped for governing the complexity a natural resource than institutions

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<sup>33</sup> Some libertarians argue that the reason why there is resources depletion by the market is because the state does not create rules which market institutions would establish in their absence if they had to come up with their own framework (Klein et al., 2013:540). The interesting thing to note is that Ostrom would, partially and in general, agree. It is the lack of property rights of oceans which, added to their transboundary nature, leads to its depletion. Ostrom argued that the issue here is not so much the right to buy and sell derived from property rights, but a broader concept of ownership. These property rights, from an Ostrom perspective, can derive from the use. They can be *de jure* and *de facto*. What Ostrom specifically opposed was one-model-fits-all solutions. Examples in her work about this are numerous. For readers interested, one good place where she details benefits and downsides of *de jure* and *de facto* property rights in marine extraction is a publication with Schlager (Schlager and Ostrom, 1992:260) involving lobstermen in Maine.

<sup>34</sup> That said, Ostrom was not an anarchist - nor opposed free market either (Wall, 2014). Ostrom theorises a third approach, based on self-organised local institutions of collective action, where rules emerge locally, through time. Ostrom (1994:3) describes these collective governance institutions as follows: "complex property-rights systems that do not fit easily into neat and fashionable dichotomies. While there may be aspects of these systems that involve sanctions and coercion, they are not state entities. While there may be aspects of these systems that involve buying and selling resource units, they are not market institutions."

which are far, such as centralised states and extremely decentralised markets (Ostrom, 1994).<sup>35</sup> It is because of this emphasis on locality that Ostrom's work backs my claim that governance of the Floating Island Project concerned local stakeholders.

Specifically, Ostrom's work helps to analyse the implications of the proposed rules for decision-making, provision and appropriation of resources in the Project's SeaZone area – the area where the special regulatory framework would apply. That said, most cases analysed by Ostrom (Ostrom, 1990) detail rural communities where the users' subsistence depend on the resource itself. They usually involve farmers or indigenous communities and not Zone authorities. Because of their close link to the resource, these users have created their own rules of provision for the resource they collectively own. In this sense, Ostrom's ethnographies could seem too distant from this case study, since the expected appropriators of the Project's area were demographically different from those recurrent in Ostrom's work. However, this dissonance between current and expected appropriators is why Ostrom's work is key here.

Most Varyon buyers were not indigenous, fishers, nor came from rural communities. Their economic subsistence was also not dependent on resources extracted from the Project's lagoon. In most cases, it did not even depend on the thriving of the Project nor on Varyon. In fact, Blue Frontiers (2018e:37), advised against purchasing Varyon with money that potential buyers were not willing to lose. This is a common safeguard notice in Initial Coin Offerings and in other investments. Indeed, when Varyon was cancelled, only one user publicly sent

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<sup>35</sup> Pennington (2012:25) clarifies that not in every situation Ostrom advocates for decentralised community-based approaches. In some instances it is not possible but to rely on state regulation (McKean and Ostrom, 1995).

aggressive texts to Blue Frontiers Telegram channel.<sup>36</sup> The telegram user wrote that he had saved money for months to buy Varyon. The second key idea I want to highlight of this difference in demographics is that, unlike in Ostrom's examples, many potential appropriators of the Project's area were expected to be temporary visitors (see TSI, 2014; Blue Frontiers, 2018e).

### **6.3. Local “Informal” Stakeholders**

It is worth saying more about how the Floating Island Project concerned local stakeholders, but also how it sidelined them. As I explained in the previous section, the most important evidence for the claim that the Project concerned Polynesians is that the Floating Island and its SeaZone would be located in a Polynesian lagoon. Therefore, from the outset, the Project would touch and affect its neighbours. More importantly, during the project's planning phase, Polynesians were the owners and appropriators of Atimaono. Many Polynesians use this lagoon for their subsistence or recreation. As I noted during my trips to Tahiti, fishermen and women fish in this area, and the beach is visited by families and couples on the weekends. Despite this and how the daily lives of Atimaono's neighbours would be directly impacted and transformed by the project (it would be naïve to state otherwise), few public initiatives tried to involve them in the Project's vision, future and planning. Several Polynesians reacted negatively towards this. And with reason.

Public community engagement is crucial for special jurisdictions to get local and government support (Frazier and McKinney, 2019b). It allows Zone developers to

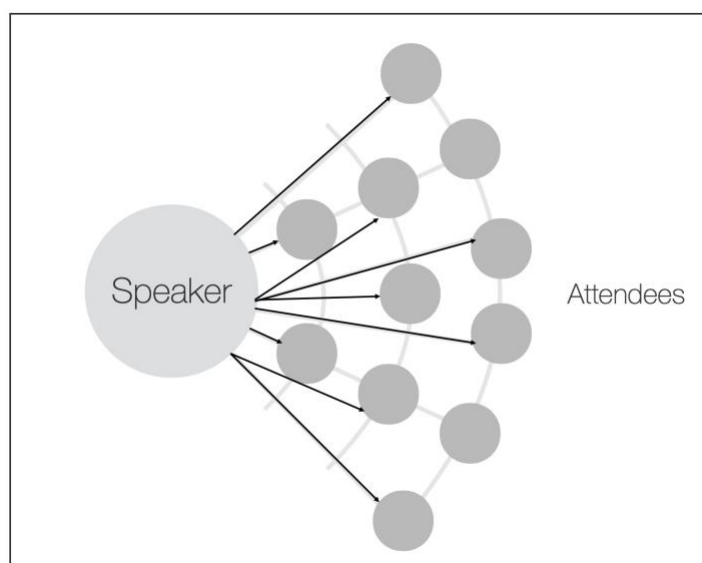
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<sup>36</sup> Telegram is an encrypted app similar to Whatsapp, but with more privacy. It can be used without a phone number, only with a user name. In 2017 it became one of the preferred platforms for Initial Coin Offerings and blockchain projects to communicate directly with their audience. Blue Frontiers had a Telegram channel where interested buyers posed questions about the purchase and the state of the Project.

plan with the local community or neighbourhood in mind. Frazier (2016) and Frazier and McKinney (2019b) argue that listening sessions, workshops and other initiatives enable the transfer of know-how and resources between the Project and the local community and, most importantly, between the local community and the project. Indeed, listening sessions allow local informal stakeholders to input in the planning phases. They also provide routes for integrating the project within the community, and ensure projects if they are or not welcomed before they spend considerable resources in a location that will not work out (Frazier and McKinney, 2019b). Using a notion found in Puig de la Bellacasa (2017) work, involving locals in the project and planning for them and with them is the *responsible* thing to do.

In principle, the conference in Tahiti on May 2018 provided an excellent opportunity for listening, involving, integrating and projecting locals and their vision into the Project. To get the most local participation, Polynesians did not need to pay to enter the conference. In contrast, international visitors paid approximately 2.800 USD, including flights. The first day, the main conference room at Le Meridien Hotel in Tahiti, which could sit approximately 500 people, was full. However, in the next days, the room was less crowded, and a significant portion of the remaining attendants were international. While attendance was free for locals, this conference was, in hindsight, not a sound way to launch the project. It did not have a flavour of community engagement, nor was it a place for listening to the community. Instead, experts, mostly foreign, including myself, spoke. One problem with the conference is that, like most conferences, it was structured as a tree topology (see Figure 2). In this structure, information only flows from the speaker to the attendees, but not in the opposite direction. This makes communication unidirectional and instructive rather than generating a two-way interaction. While

there were some additional meetings with the community the days following the conference, these did not have continuity.



*Figure 2. Tree topology in conferences*

Something similar occurred with the workshops of October 2018.<sup>37</sup> Not only they lasted two days and had no follow-ups, but participation was also limited to 25 attendees (Actu.fr, 2017; Tahiti-Infos, 2017). These two did not represent long-term community engagement strategies and did not manage to generate local grassroots support. Additionally, the Project organised weekly parties at the Tahitian headquarters. However, the guests were members of the Polynesian elite, and not grassroots. The lack of further community engagement led to visible responses against the Floating Island since the launch at Le Meridien. These were mostly unfavourable.

For example, one user wrote on Facebook: "You want the protection of our lagoons without participating in the community effort!!" (FacebookUser1, 2018; my translation). Another example was a photo uploaded by a Polynesian on the

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<sup>37</sup> In the Methodology Chapter I explained my participation in both of these events.

Project's French Facebook page (Iles Flottantes Fenua, 2016)<sup>38</sup>. It contained a survey by Polynesians (Illes Flottantes en Polynésie, 2017) asking whether they wanted the project. The two highest voted options were "no", "leave our islands as they are"<sup>39</sup> and "no way"<sup>40</sup>, with 262, 94 and 80 votes, respectively compared to 24 "why not"<sup>41</sup>, 22 "yes"<sup>42</sup> and 7 "I'll think about it"<sup>43</sup>. Given the obvious Polynesian concern regarding a new project in their lagoon, a place Polynesians call their refrigerator, Polynesians felt the Project did not speak to them.

But critiques also surfaced in the press and in protests at the Assembly. Valentina Cross, leader of the opposition representing the commune of Teva I Uta, told the press:

It is not so much against these Americans as we have, it is rather the way in which it is disposed of our lagoon without us having been consulted either at the level of the municipal council or at the level of the population. It's all. It can be a nice project, but not at home, and not the way it was done, that is to say without any consultation.

(Actu.fr, 2018; my translation)

The disengagement with local stakeholders was evident even within the project. In the fourth quarter of 2017, Polynesian participants in the Project moved away from it (Ventury, 2019). Subsequently, the profiles of the only three Polynesian women, who previously appeared on the Company's website, were taken down. Their contributions to Blue Frontiers seemed to be a strong pillar in the local community

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<sup>38</sup> The original question in French reads: iles flottantes en Polynésie pour ou countre????

<sup>39</sup> The original text in French reads: "lesse not iles tel key sont".

<sup>40</sup> The original text in French reads: "jambs de la vie".

<sup>41</sup> The original text in French reads: "pourquoi pas"

<sup>42</sup> The original text in French reads: "Oui".

<sup>43</sup> The original text in French reads: "a réfléchir"

engagement, as I perceived during my first trip to Tahiti, before becoming a volunteer of the project. Alexandrine Wang, one of these young Polynesian women, organized and managed the entire conference, volunteers and events. Another of them, Pauline Sillinger, helped organise the workshops months later (see Tahiti-Infos, 2017). The third one, Lenick Perenou, was an architect who brought the Polynesian worldview and symbols to the project. This included designing canoe-shaped homes and orienting the main floating building towards stars that Polynesian ancestors used as navigation maps (see Perenou, 2017). There is little evidence after their exit, besides a Facebook page in French (Blue Frontiers, 2016), of public community engagement strategies in Tahiti.

Only one half-Polynesian remained in the project, Marc Collins Chen, the person who first did the liaison between The seasteading Institute and the Polynesian government. This co-founder, who lived in Tahiti and was, by default, the person in charge of everything related to Polynesia, told the press that the Project had not talked to the community because it was waiting for the government to read the studies first (Actu.fr, 2018). In one occasion, during the peak of the waves I describe in the next chapter, Collins Chen tried to talk to Cross, the politician from Teva I Uta. However, this was during the peak of the Facebook and protest waves involving the Project. The situation in Tahiti was so heated that the mayor, Tearii Alpha, forbid Collins to meet the community (Actu.fr, 2018).

Besides not having continuous, public and 'engaged' community engagement aiming to make a project Polynesians would directly benefit from, the second aspect showing how the Project sidelined local stakeholders was that people were

required to own Varyon before entering the Project's area.<sup>44</sup> About this need, Blue Frontiers writes: "Varyon will be required for staking a person's presence, and residency (or virtual residency if available) in a SeaZone" (Blue Frontiers, 2018j; 2018e, 2018h). A verification algorithm would check if visitors or residents had Varyon locked in a smart wallet (Blue Frontiers, 2018e:19). The Varyon purchasing document further adds: "Anyone who spends time in a SeaZone will be required to own Varyon and stake an amount for the duration of their visit or residence" (Blue Frontiers, 2018e:19). These quotes by Blue Frontiers are relevant, not only because they request anyone, resident or visitor, to have Varyon to enter the project, but also because they mention the SeaZone, not the Floating Island.

As I explained in the introductory chapters, foundational seasteading authors call the floating buildings either 'seastead' or 'floating islands'. However, the term 'SeaZone' refers to the entire area covered by the regulations, the area where these buildings were located. In this case, the term covers the water too. This distinction is highly important because it raises questions about whether and why Polynesians would and should require a cryptographic token to use a water body they now appropriate. This is why I use the verb "sidelining", as a way to communicate the Project's exclusion to locals. I explain more below.

The sidelining arises from words used in the Project documentation and the definition of each term in it. To be more specific, Blue Frontiers defined seastead in the Varyon purchasing document as "mobile floating homes, businesses, and community spaces that can be moved and reconfigured in relation to other seasteads" (Blue Frontiers, 2018e:2). However, the Varyon ownership requirement

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<sup>44</sup> As a reminder of the terms, the difference between floating island and SeaZone is that SeaZone refers to the entire area of the Project where the special regulatory framework of the SeaZone Acts would apply, whereas Floating Island refers to the buildings.



applied for the SeaZone, not seasteads. Blue Frontiers described SeaZones in the same document as "Special Economic Zones at sea" (Blue Frontiers, 2018e:2). Considering these two definitions suggests that Varyon would have been needed to enter the 7.500m<sup>2</sup> of the entire area for which the Special SeaZone framework would apply, and not only for the 1% of this total space that the economic study (see EMSI, 2017) explains floating buildings -mislabelled seasteads- would occupy

The Project did state that some categories of users, such as local boaters or French Polynesia's coastguard would have been exempt from holding Varyon in a digital wallet (Blue Frontiers, 2018e:20; 2018j18). For them, Blue Frontiers, or third parties, would manage the Varyon needed to enter – referred to as 'the stakes'. These third parties would include employers, the municipality, a seastead association, tourism and transportation operators, among others (Blue Frontiers, 2018e:18).<sup>45</sup> But even this alone is problematic because it suggests rules and a prohibition to move in a place they now freely use.

One argument against this being problematic could be that Polynesians could purchase Varyon. As a matter of fact, 1 of the 50 nationalities that bought it corresponds to French Polynesia (Blue Frontiers, 2018n). Nevertheless, and to restate, the artificial barrier created by holding Varyon raises questions about why Polynesians should or would choose to use it to enter what is now their own territory and which they appropriate at will. Moreover, cryptocurrency transaction volumes in Tahiti, during the planning phase of the project, and to date, were so

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<sup>45</sup> It is important to note that this would have not excluded public servants, such as custom agents, to be able to enter the project. Current regulations state that all custom agents are able to inspect ships anchored in the costs of France, because it is a matter of national security and public safety (CC, 2013). This was disputed in court on the basis that doing so violated the right to have a private life (Funke v France, Feb 25 1993). The final ruling was that an unexpected inspection could be done only with an authorisation and if not doing it violates national security. Something similar could have maybe been extended to the Floating Island.

minimal that the Collectivity tends not to appear in country-wide metrics. Likewise, back then French Polynesian cryptocurrency regulations were rather non-existent or unknown (icotokenseconomy, ND). Therefore, this use of Varyon does not come natural. Instead, it seems a neocolonial tool which would have resulted in strengthening an islander form of orientalism (see: Said, 2002) in Tahiti.

We can read the implications of this situation more in-depth if looked from an Ostromian perspective. Holding Varyon as a requirement to enter the SeaZone aligns with Ostrom's principle concerning the need to bound a resource. However, Ostrom's principle suggests that individuals who are already occupying the physical space are those who should create the institutions governing them. From an Ostromian perspective, the desire to bound the resource should have come from Polynesians, not from a potential enclave of foreigners. But here it was a foreign company which brought those rules. Therefore, requiring Varyon to enter the SeaZone was dissonant and not a sound strategy from an Ostromian perspective. It was not a responsible way to carry out a Project who stated in the Memorandum of Understanding it would directly benefit Polynesians.

One way to avoid tensions between the need to bound physical resource and their users, while still bounding the 7.500m<sup>2</sup> of the Project and keeping a Varyon entrance requirement, was differentiating - as Ostrom (2012) did - between physical and user boundaries. This would have restricted access to the Floating Island building to non-Varyon holders, but not to the ocean covered by the regulations of the SeaZone. In that way, non-Varyon holders fishing, surfing, paddling and swimming in the area covered by SeaZone could have been allowed, even if they found themselves 1 centimetre away from the Floating Island. However, in the planning phase reached by the project, it was unclear what exact

rules would apply to Polynesian non-Varyon holders who were swimming or fishing in the SeaZone. It is not clear in the public documentation if non-Varyon holders, for instance, paddling or swimming were expected carry their smartphones with them in the ocean to show proof of Varyon holding or identity when entering the SeaZone, an area they own. Overall, other key documents of the project, such as the energy and water (Blue Frontiers, 2018e) and food reports (Blue Frontiers, 2018f) barely mention current Atimaono users.<sup>46</sup> Problems and unclear issues like this one were contributing factors to why the waves I discuss in the next chapter gained, rightfully so, such momentum.

Another important read of Ostrom's work to this issue relates to the concept of 'appropriator'. In a legal context, the term refers to: "a person who has a particular legal claim to withdraw resource units" (Ostrom, 1990:220). Hence, appropriation does not derive from ownership, but use. Here, the real appropriators of the project's total area were fisher men and women and families who use the beach

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<sup>46</sup> One thing to note where the Project went beyond traditional projects in terms of appropriators in the commons concerns marine life in the SeaZone area. In the environmental study of the Floating Island (Blue21, 2017), non-human animals were seen as current appropriators of the lagoon. One example that reflects this discusses artificial light. Blue21 (2017) explored ways in which artificial light coming from the Floating Island could disturb fish living nearby. To reduce light pollution, Blue21 recommended that the exterior lights of the buildings were orange or red. These light tones, which are above 600nm, cannot be seen by most coral reef fish species (Job and Shand, 2001). Blue21 (2017: 4) explains: "outdoor lighting at wavelengths that are less likely to disturb fishes can be used. Orange and red light are known to reach only limited depths (at 1 m depth red light intensity is already reduced by 90%, and orange light by 50%)". Additionally, to avoid collisions between vessels with fish and corals and minimising noise during construction, Blue21 (2017) recommended to build the Project on land. Blue21's perspective fits with a complexity framework of systems ecology in that it detaches from anthropocentrism. While, to my knowledge, Blue21 was not considering Ostrom's work, their non-anthropocentric perspective even surpasses Ostrom. This is because Ostrom's views non-human animals and other species as resources or as part of the natural environment, whereas Blue21 (2017) sees non-human animals as appropriators of the resource. This perspective is important in light of another author I have mentioned in separate parts of the thesis. Puig de la Bellacasa (2017) goes against anthropocentrism, arguing for matters of care that come from a more ecological and integrated and web perspective of humans and non-humans. This approach is similar to the systems ecology perspective proposed by the architects, Blue21. This position is highly valuable for SeaZone projects because its potential to lead to forms of planning, managing and using, calling back to Ostrom, that are not exploitative.

and lagoon to fish, swim, leisure, and other activities. However, the expected appropriators, given that owning Varyon was needed to enter the area, were this cryptocurrency's buyers. This is one important reason why I argue that the Project targeted, through its token uses, demographics outside of Polynesia. It, indeed, went against Ostrom's findings for successful governance of the commons.

A third point about sidelining local stakeholders also relates to Varyon. Varyon, a core aspect of the Project's governance, seemed disconnected from the other half of the project's mission and one reason why the Polynesian government signed the MOU in the first place. That is, helping communities adapt to sea-level rise (see: Blue Frontiers, n.d.-c). With exceptions such as the Project's design brief by Blue21, in the Project's marketing, the message of communities threatened by rising seas was not crafted for Polynesia, even though this was the location of the Project and that sea-level rise was one of the top motivations of the government to sign the Memorandum. Authors such as Ranganathan (2019:211) criticised that the Floating Island's interest in sea-level rise was mere rhetoric. She writes: "this disaster, extracting wealth from new commons – the common concerns of climate change, sea-level rise, and biodiversity loss".

Evidence seems to back Ranganathan's idea. As the following quotes show, superficiality in the use of the climate change narrative or absence of it and a lack of general coherence characterise some uses of Varyon. For example, the Varyon slogan was "Increasing variation in governance". Accordingly, the Varyon promotional video said:

7.6 billion people live under the authority of only about 192 land-based governments, and only 180 national currencies. To solve humanities

greatest challenges, we need innovative governance, as fluid as our world. Blue Frontiers, the first seasteading company, is proud to announce Varyon. A token of exchange to increase variation in governance.

(Blue Frontiers, 2018h)

In this main promotional video of Varyon, there is no mention of the role played by Varyon in sea-level rise adaptation. Similarly, the threat of rising seas is disconnected from the governance aspect in the description of Blue Frontiers' mission:

Blue Frontiers is making it possible to decentralise governance by launching a seasteading industry that will provide humanity with new options for organising societies and governments. Seasteads will provide environmental resilience to the millions of people threatened by rising sea levels. Through Varyon, we invite people to participate in realising this fascinating endeavour.

(Blue Frontiers, 2018e:8)

In another part of the Varyon purchasing document (2018e:2), Blue Frontiers did join together both parts of the project: "the same technologies we are developing for seasteads will provide environmental resilience to the millions of people threatened by rising sea levels". But in another section, seasteads, the 'floating buildings', are described only as a dynamic geography mechanism and a way to get to achieve anarcho-capitalist oriented freedom, as follows:

mobile floating homes, businesses, and community spaces that can be moved and reconfigured in relation to other seasteads, allowing for the formation, reformation, and dissolution of networks, neighbourhoods, cities, and eventually nation-states in international waters. Seasteads will offer residents and businesses liberties and regulatory frameworks that allow for rapid innovation in societal and political structures.

(Blue Frontiers, 2018e:2)

Likewise, the Company explained the purpose of SeaZones, the regulatory aspect of the Project, in the following quote, one which does not include sea-level rise:

SeaZones will create legal and regulatory environments within the territorial waters of host nations, granting seasteaders substantial flexibility or exemptions in fiscal, customs, labour, permits, and other select regulatory matters. Cryptocurrency and blockchain technology users and companies will benefit from these regulatory regimes for certainty, liberty, and taxes.

(Blue Frontiers, 2018e)

Another example of superficiality in messaging is:

Beyond Sustainable. By living on the seas, humans will have a strong incentive to stop treating them as hunting grounds and ocean highways for supertankers, and start taking better care of them. The seasteads are designed to attract and revive coral and marine life habitats.

(Blue Frontiers, 2018e:16).

As evidenced in these few quotes, the mentioning of sustainability in the Varyon documents is either absent or, when present, rather superficial. Despite the proposed core use of Varyon in the project, it was never stated how Varyon would be useful for users of the Tahitian lagoon, sea-level rise adaptation nor locations and communities in danger. Hence, one important additional way in which the governance and marketing strategy sidelined local stakeholders was through superficial use of sea-level rise in the key promotional and purchasing documentation of Varyon and key definitions. This reflected some disconnection between Varyon - the project's most marketed aspect, funding mechanism, means of exchange and governance tool- with finding sustainable ways for Polynesia to adapt to rising seas.<sup>47</sup>

Overall, sea-level rise and the local culture seemed to be mentioned merely to appease the project's future neighbours. Examples of this are included in the dissonances between the project's French Polynesian and international Facebook page profile pictures. The Project's French Polynesian Facebook profile picture had a design of the Floating Island inspired by French Polynesian seafaring tradition, which resembled Maoui's hook from above, showed the stars, and it had words in Tahitian and in French. It was meant to speak to locals. In contrast, the English-speaking profile picture had the company's logo.

Moreover, each Facebook post on each page seemed to portrait an entirely different aspect of the project. The French one shaped around sustainability and

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<sup>47</sup> The Project's sustainability narrative seemed to have shaped around the work of the architectural partner, Blue21 (2017db), and by the work of the Polynesian architect, Perennou (2017:66), who had previously worked on floating architecture for sea-level rise in French Polynesia. It is important to note that Perennou's work only appeared in the French website of Blue Frontiers, and was never translated to the English speaking one. This suggests its inclusion could have been for "show" in the Collectivity, rather than genuine.

the English one on governance. This was also reflected in the type of images the pages used. For French Polynesian audiences, the image shown of the Project was the design which resembled one natural island. For internationals, an additional design was used. As in the case of the Varyon promotional video (Blue Frontiers, 2018h, Blue Frontiers, 2017c) shows, this second design was architect's Simon Nummy's more modular version of the Project - elucidating more easily the idea of dynamic geography than the static floating island. Similarly, the French-speaking Facebook (Iles Flottantes Fenua, 2016) 'about' page describes the Floating Island as "ecologic floating islands".<sup>48</sup> However, the English-speaking (Blue Frontiers, n.d.-a) "about" page, which was more used, had more posts, followers and traction, read: "Realising the promise of seasteading. Resilient floating islands and innovative governing frameworks".

But the fact is that the proposed Floating Island Project never actually materialised. Therefore, it is not possible to know how the relationship between the Project and local stakeholders would have unfolded once built. However, the tacit notion of nautical displacement behind the marketing of Varyon seemed to embody one of Bach's critiques to some Zones -and one of the many problems with neocolonialism. Bach recalls that some of these have evicted local residents to give way to "global creative talents" (Bach, 2011:115). I expand on this category of users in the next section.

#### **6.4. Global (Non-Local) Stakeholders**

In addition to local stakeholders, the Project also involved non-local, non-government stakeholders, whom I will refer to as 'global' stakeholders. It is

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<sup>48</sup> The text in French reads: Page officielle du projet d'îles flottantes écologiques, du Seasteading Institute, en Polynésie française



essential, therefore, to discuss the global level of stakeholders that the Project also concerned. After all, once the Project was established, these global stakeholders would be more entrusted with the Project's governance than the local stakeholders. This is mainly because they would participate in the Project's governance by voting and emulating dynamic geography with Varyon. Unlike the local stakeholders discussed above, the SeaZone did not concern global stakeholders by virtue of spatial proximity. Instead, it was Blue Frontiers' decision to have Varyon as a core part of the Project what made them stakeholders. The involvement of global stakeholders can be seen in the marketing channels for the Floating Island Project and the languages in these channels, social media activity, the use of Varyon for voting, for dynamic geography and as a funding mechanism.

Varyon was a utility token built on the Ethereum blockchain.<sup>49-50</sup> It was a token exchangeable for services and other cryptocurrencies, with similar uses to fiat currency, and stored in a smart wallet. Varyon was one of the most marketed aspects of the Project and would be a central component of its governance and funding. Overall, this token would be a funding mechanism, a means of transaction, and a governance tool (Blue Frontiers, 2018e). People from almost every country could buy Varyon, even if they were not in or from French Polynesia. Over fifty nationalities bought Varyon (Blue Frontiers, 2018k). Innovating with governance using Varyon was one of the main ways the Project tried to attract international,

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<sup>49</sup> A utility token means: a cryptocurrency or digital token that is issued in order to fund development of the cryptocurrency and that can be later used to purchase a good or service offered by the issuer of the cryptocurrency sold *utility tokens* as a method of fundraising for the start-up (Merriam-Webster, 2016).

<sup>50</sup> Ethereum is a cryptocurrency like Bitcoin. Its blockchain is the network or distributed ledger technology (Evans, 2014) where it exists. Blockchain is the distributed ledger technology where cryptocurrencies like Bitcoin (and Ethereum) exist (Atzori, 2015; Swan, 2015). Blockchains work as a decentralised database, which do not have central servers to store funds nor record transactions (Velasco, 2017). Bitcoin, for instance, uses a universal database distributed in a public decentralised peer-to-peer network (Bitcoin Wiki, n.d.). As Velasco (2017) writes, the distributed nature of blockchains means cryptocurrencies such as Bitcoin exists in several places. They exist in users' phone or laptop, but also on the ledger.

global stakeholders. To back my claim that the Project concerned, and targeted, global stakeholders, it is important to look at the different uses of Varyon and their implications.

First, through Varyon, buyers could have purchased: "seasteads, fractional ownership of seasteads, seastead residency, and other products and services from Blue Frontiers" (Blue Frontiers, 2018j). Blue Frontiers would only receive Varyon for its services. The services included utilities such as electricity, cable, sanitation, business registration and physical or virtual residences (Blue Frontiers, 2018j). That the Company would only accept Varyon suggests that the token would have monopolised exchanges in the Floating Island. More importantly, economic exchanges involving the Island, between Blue Frontiers and Polynesians would have been challenging for locals without a digital wallet.

About the use of cryptocurrencies in the Project, Blue Frontiers' (2018e:11) wrote: "Our SeaZones will offer cryptocurrency users and developers significant latitude for experimentation within a legal framework that provides certainty and protection from hostile regulatory regimes elsewhere". 'Elsewhere' in this statement suggests a focus on stakeholders outside of the location of the Floating Island –French Polynesia. It seems to allude to the traditional demographic of seasteading supporters, since it is a core part of seasteading is that individuals can go to places with regulations they prefer<sup>51</sup> – in this case they could potentially change their place of residence for the Floating Island.

Second, Besides the core use of Varyon to the Project, the amount of activity in English-speaking social media, compared to channels targeting a French-speaking

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<sup>51</sup> This is the idea of foot-voting or jurisdictional arbitrage.

audience or French Polynesians, further suggest that the Project concerned - and targeted - global stakeholders. Several of the Project's marketing materials, such as the Medium blog, Telegram channel, YouTube channel, Varyon promotional video, Varyon purchasing document and even the Project's podcasts were in English, not in French or Tahitian – the two main languages of French Polynesia. As the podcast host, I played my own role in this problematic topic. In the concluding chapters, I discuss how my participation influenced my current way of working, my projects and current business. Blue Frontiers' main Facebook page, with participation from users with names from many parts of the world, was one of these English speaking channels. This page had significantly more activity than the Project's page in French for French Polynesians. It had 121,000 subscribers, contrasted to 1,683 for the French-speaking one. Likewise, the last post from French page was on February 2018. This was during the peak of the waves. In contrast, the English-speaking Facebook, for the international audience, continued to be active until April 23rd 2019. This was much after the Project in Polynesia had faded away. Likewise, the French-speaking Facebook featured 3 public events in Tahiti, compared to 21 on the English-speaking one, in San Francisco, Indonesia, Texas, Australia, Switzerland, New York, Boston, London, among others. I also orchestrated several of this, failing to see at the time the neocolonial aspects of the Project. Added together, these numbers back this section's main claim that the Project targeted global (that is, not local) stakeholders.

The Varyon purchasing document was another example of how the English language had priority over French. Almost everything related to Varyon suggested the targeting of a non-local demographic. For instance, although the Varyon website was translated into 10 languages, including French and Tahitian, the link to the Varyon purchasing document opened this document in English (Blue

Frontiers, 2018d). This is an important point, given that the purchasing document was the main public purchasing material for the overall Project and that Varyon buyers would become residents of the Island. The English focus arguably contradicted what The Seasteading Institute wrote after signing of the Memorandum of Understanding: the Institute would seek for local and global investment (TSI, 2017k). Yet, without a Varyon purchasing document in French or Tahitian, it seemed as if it did not matter if investment came or not from French Polynesia. Polynesian Varyon holders were essential to democratise the origin of the funding and, most importantly, to provide locals with access to resources within the Project and the regulations of its SeaZone. While some might say that the priority given to English was understandable, to a certain extent, because the largest pools of seasteading supporters were historically in the United States and because English is the most common second language spoken across the Western world, English is not an official language of Polynesia. Local languages should have been as crucial or more for the Project as the English language employed in digital mediums. This is not important because it would have been one step taken to avoid the Project becoming a foreign enclave. It would have meant that behind the Project's planning was a real sense of responsibility for implementing something that would directly and foremost benefit the local community. If I had to sum up one reason why the Project failed, it would be this one. As a Ventury (2019), who briefly participated in the Project as volunteer said: fishermen need ice; the Island could have at least think about hosting an ice station for fishermen and women.

The international target audience of the Project was clear for many French Polynesians who wrote negative public comments on Facebook against the Project. Relegating local languages, namely French and Tahitian, while trying to

set up the Project in Tahiti made the Floating Island Project an enclave. In Chapter Seven, I expand on these comments in what I call the 'Facebook wave'. Here, I shall mention that around the time critiques about the foreign enclave surfaced, Blue Frontiers responded it would prioritise 25% of the residences on the Floating Island for Polynesians (Quirk, 2018a). However, this would not have made local stakeholders have significant or more participation in the Project than global stakeholders, especially because of the central role of Varyon. As several Polynesians during the Facebook wave would point out, 25% is insignificant participation for an area which is now appropriated entirely by Polynesians.

Third, Varyon would be a bidding token for implementing Friedman's (2002) idea of dynamic geography (Blue Frontiers, 2018k). As I explained in previous chapters, Friedman (2002) states that dynamic geography is a way to vote with the feet - or with the floating house. In order to emulate a small scale and centralised version of dynamic geography, geographical locations in the SeaZone would be periodically auctioned using Varyon (Blue Frontiers, 2018b;1). Therefore, in the Floating Island Project, dynamic geography would be the capacity to float a house or platform to another part of the SeaZone. Likewise, to move a floating vehicle, the owner would have needed to stake Varyon (Blue Frontiers, 2018; 2k). From an Ostromian perspective, there was a problem with dynamic geography in the SeaZone.

The main problem arises from how, as Blue frontiers pointed out, some Varyon holders would be visitors. Blue Frontiers writes that for a proposal about the SeaZone to be approved, it needed not to have "simple majority veto from either the pool of presence stakes or the pool of surface stakes, taken separately" (Blue Frontiers, 2018e:21). That means that voting results needed to satisfy the two

categories of residents and visitors – note that Polynesians are not mentioned. The text reads:

Proposals to change the SeaZone charter pass when there is no simple majority veto from either the pool of presence stakes or the pool of surface stakes, taken separately. The proposal can be voted down by individuals with presence stakes, with more than 50% of the weighted stakes required to veto a proposal. Simultaneously, the proposal can be voted down by individuals with surface stakes, with more than 50% of the weighted stakes required to veto a proposal. Either group of stakeholders can veto the proposal, so in order for it to pass it needs to broadly satisfy individuals visiting and living in the SeaZone as well as owners of infrastructure in the SeaZone. The weighting algorithm will take into account the amount of Varyon a voter was required to stake, not the amount of Varyon a person owns. Stake requirements will presumably be higher for owners and residents than for visitors, allotting more veto power to the owners and residents. Additional weight will be granted to persons who have had Varyon staked for longer periods of time, so that seniority will play a factor in decision making".

(Blue Frontiers, 2018e:20)

What this proposal indicates is that Varyon holders who were simply visitors staying at the Floating Island would have more opportunities to influence decisions than local Polynesians without Varyon neighbouring the Project. This means that the governance and marketing strategy of the Project, and the central use of Varyon in it, would have given more decision-making power about the Project's

lagoon area covered by the SeaZone regulations and its transboundary resources to foreigners than locals who have been using the lagoon for centuries. This would have not been a sound practice, from an Ostrom perspective. Users' lack of permanence in a common, while participating in their governance, decreases the possibility to build trust and reduces long-term environmental commitment. It also makes it more difficult to monitor the resource and enforce rules.

Ostrom explains that one of the hardest problems in governing the commons is: “solving commitment problems of the appropriators and the assignment of spatial and temporal access to the resource, arranging for the supply of new institutions and monitoring individual compliance with sets of rules” (Ostrom, 1990; 27). This is why she promotes the strengthening of local institutions through individuals who are already set in a place:

Appropriators who have lived and appropriated from a resource system over a long period of time have developed relatively accurate mental models of how the biophysical system itself operates, since the very success of their appropriation efforts depends on such knowledge. They also know others living in the area well and what norms of behaviour are considered appropriate.

(Ostrom, 2001:178).

The topic of permanence, however, has its own limitations in contemporary globalising and networked world. However, what is problematic with granting temporary visitors voting capacity is that Varyon holders visiting for a few days would be able to input more directly into what happened in the Project's lagoon area than Polynesians. Nowhere does the purchasing document state that

Polynesians in neighbouring communities would also be able to vote in aspects about the Project which concerned them by virtue of proximity, such as the Island's infrastructure and marine activities, despite their proximity. In contrast, the Project expected Varyon buyers to form part of the governance of the Project area, as the following quote shows. Blue Frontiers wrote that: "individuals visiting and living in the SeaZone, as well as owners of infrastructure (Blue Frontiers, 2018e:20), could participate in the Project's governance, by deciding on aspects related to changes in the SeaZone's charter. The charter meant the regulations of the SeaZone.

From an Ostrom perspective, the use of Varyon to decide on something as important as the SeaZone's charter, the rules that would apply within the Project itself, would be an insufficient mechanism to govern the commons in question. The reason lies in one of Ostrom's (1995:3) critique to market governance: "Finding a legal method to achieve the buying and selling of flow units, however, does not solve the problem of enhancing, maintaining, or regulating the facility or stock system". Despite limitations like this, where rules regarding users do not correlate with the environmental conditions of the resource, the use of blockchain was central to governance in this special jurisdiction.<sup>52</sup>

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<sup>52</sup> Blockchain has become one of the preferred tools for several alternative forms of governance that are inspired by anarcho-capitalism and anarchism. Frazier (2018) explains that blockchain allows voluntary communities to innovate in governance, in aspects such as land registration, smart contracts, e-governance and arbitration. This is why McDonald (2013) describes blockchain as a non-territorial decentralisation of state functions. Blockchains can provide some of the functions state provide with its transboundary jurisdiction, whereby jurisdictions are decoupled from geographical locations (McDonald, 2015:1). The potential of blockchain is such that Davidson et al. (2016)<sup>1</sup> argue that since 2009 -the year Bitcoin was created- the blockchain added a new institution to capitalism -besides markets, clubs, relational contracts, governments and commons. This is because such institutions are no longer exclusively in charge of law, property rights, contracts, money and finance. The authors stress that the Ethereum blockchain is a not a new market technology. Instead, it is: "a self-governing organisation with the coordination properties of a market (Hayek 1945, 1978), the governance properties of a commons (Ostrom 1990), and the constitutional properties of a nation state (Brennan and Buchanan 1985)" (Davidson et al., 2016;2). Similarly, Atzori (2015) recognises, to certain extent, the potential of blockchains to decentralise governance by the state using market mechanisms. While these author's position in respect to how blockchain adds a new institutions to existing main ones is, to a large extent, a reality with potential, in this thesis I place blockchains as an extension of the market because its use in the case study



Fourth, using Varyon to fund this SeaZone attempt was another way in which the use of Varyon targeted global stakeholders. The financial goal of the Project was to raise 15 million USD from private buyers through an Initial Coin Offering. 5 million would be raised in a pre-sale and 10 in the main sale. However, the pre-sale took place in the middle of the cryptocurrencies bear market of 2018.<sup>53</sup> Given that it is common practice for cryptocurrencies to be bought with other cryptocurrencies, the fall of Bitcoin and Ethereum prices during the cryptocurrencies bear market impacted the Varyon sale. By extension, it impacted the project's funding. This additional factor further reflects the idea that, in complex nested systems, levels constrain or influence each other. This time, a global phenomenon impacted placing a project in a specific location. The Varyon sale had to be cancelled.

The Varyon cancellation happened as follows. During the pre-sale, in May 2017, the minimum price to buy Varyon was 40 Ethereum (ETH) (Elwar, 2018; Blue Frontiers, 2018m). At the time, this was approximately 10,000 USD (Blue Frontiers, 2017g). One month after the pre-sale began, Blue Frontiers (2018l) announced that the new minimum price to buy Varyon was 1 ETH. This equalled 400-600 USD. When this pre-sale closed on July 14th, token buyers had purchased approximately 3.5 million USD (3100 ETH) (Blue Frontiers, 2018k; 2018n). This total was 1.5 million less than the 5 million USD goal.

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was instrumental to establish a particular political economy of governance via the market and to serve as a means of transaction. Likewise, its use in decisions in the SeaZone, as I showed in the previous chapter, was not independent from domestic, supranational and international state institutions. While this does not mean blockchain does not have the potential to establish itself as a competing institution, in its infant state it seems to be an instrument as opposed to an end.

<sup>53</sup> The bear market of cryptocurrencies begun at the beginning of 2018. This was when bitcoin went from being around 19,000 USD per Bitcoin to half of the price in one quarter, and stayed there throughout 2018.

Mentioning the minimum investment requirement is vital for the claim that, among the stakeholders the Project concerned, Blue Frontiers targeted global stakeholders. French Polynesia's economic situation makes 10.000 USD too high. I recognise that there are people in French Polynesia with enough disposable income to invest \$10.000 USD in a high-risk project. However, in general, French Polynesia has been falling economically since the sixties and has been suffering from a recession since 2009. Likewise, 22% of individuals of working age are unemployed (ISPF, 2018) and 20% are below the poverty line (NationMaster, N.D.). Moreover, the average salary is 1,352 USD<sup>54</sup> (SalaryExplorer, N.D.); and cost of living is 39% higher than France due to tourism (IEOM, 2018:39). Therefore, it is possible to suggest that the entry barrier to the Floating Island Project of 10,000 USD was too high for many local stakeholders. Even the lower minimum investment requirement, 400-600 USD, would still be half of the average monthly salary. In the next section, I provide examples of missed opportunities for involving local stakeholders in the Project's documentation.

### ***6.5. Missed Opportunities for Involving Locals***

Here I present missed opportunities where the Project's documentation could have explained how to engage with Polynesians in the Project's governance, share resources with them and plan a project that would benefit them directly. Some of these opportunities arose from the management of utilities, discussed in the energy and water and food reports. Others emerged from the coexistence of hybrid regimes of property and ownership within the Project's area. I additionally explain different notions of ownership in the Project, in order to understand where these opportunities lied. This last point requires some unpacking before getting to the

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<sup>54</sup> In French Polynesian Francs, this equals 145,297 XPF.

main point, so bear with me while I get there to mention the opportunities one by one.

The first missed opportunity involves the management of utilities and Project's infrastructure. Documents of the Project referring to the SeaZone (using the term used by the Project) mentioned shared forms of governance for some utilities and infrastructure. For example, the energy and water and food reports (Blue Frontiers, 2017e, 2017f) analysed the advantages and disadvantages of being self-sufficient or dependent on the French Polynesian grids and infrastructure. They explored the benefits and downsides of having decentralised or centralised utility platforms, keeping in mind The Seasteading Institute's long-term vision of having fully self-sufficient seasteads. One proposal, by Blue Frontiers' volunteers working groups, consisted of having collective governance of utilities and management of resources for some cases. Collective governance would be shaped an elected board which approved energy technologies used by residents who opted out from energy provision on the Island, in case Blue Frontiers' monopoly prices were elevated (Blue Frontiers, 2017c:5). Reports analysed this too for wireless communications.<sup>55</sup>

I discuss, again, the infrastructure and utilities topic because, as I explained in a previous section, the SeaZone and lagoon's transboundary nature mean that activities in the Floating Island SeaZone would have impacted the parts appropriated by Polynesians. Therefore, discussions about the utilities' board could have, at least, mentioned including local NGOs or collectives of Polynesians, independently of whether utilities connected to Tahiti.

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<sup>55</sup> While the reports contemplated a possible monopoly by Blue Frontiers, explanations for why this would not be the case were rather superficial. One example is the following quote: "BF has a very strong disincentive against overcharging people for electricity - the Seasteading principle of "vote with your house" applies here. If people think they are being cheated, they will just leave and go back to where ever they came from" (Blue Frontiers, 2017c:6).

The second missed opportunity relates to rainwater. The reports looked at whether the green roof design, which would be on top of the Floating Island, would collect enough water from rain to supply to all the Floating Island's residents while leaving space for the solar panels (Blue Frontiers, 2018c:5). One recommendation by the working groups was to optimise resources by sharing them. Although it was unknown if there would be water surpluses, this part of the reports provided opportunities for considering sharing resources with neighbouring communities.

The third missed opportunity was in the anchor zone. One of the few documents which mentioned Polynesians was the energy and water report. It did so in the context of the anchor zone. The part of the document read: "we can establish a farmer's market that will provide local producers the opportunity to come and sell goods in the Anchor Zone and interact with our community" (Blue Frontiers, 2017c:5). The anchor zone could have been thought or planned as a place for interaction, exchange and for developing projects with locals. However, as presented, it was thought with an enclave mentality where there would be a clear distinction between locals and the Floating Island residents. Thus, even this idea represented a segregated and disengaged version of community engagement.

The fourth missed opportunity relates to the existence of hybrid property regimes in the overall Project, which we can read they would exist based on the Project's intention of implementing dynamic geography. As explained in previous sections, to emulate dynamic geography, the organisation of space in the SeaZone would be periodically arranged (Blue Frontiers, 2018e). Because of this periodic arrangement, it is reasonable to assume that Varyon buyers would have owned their homes, but not the plots of water underneath. For dynamic geography to work, the water underneath private properties would have had to not belong to any

individual in particular. Instead of owning the water, floating homeowners would likely temporarily claim, but not own, the water underneath, so floating homes could periodically move.<sup>56</sup> As for the entire 7.500m<sup>2</sup>, Blue Frontiers might have been given concession for certain amount of years, similar to the standard lease agreements that applies for many Special Economic Zones. Public documents, indeed, do not spell out the relation between ownership of the properties and ownership of the water. They only read that Blue Frontiers would manage all marine resources in the SeaZone underneath them (Blue21, 2017). But we can get to the likely hybrid ownership model by analysing Varyon.

Another reason to believe that Varyon holders would have not owned the main Floating Island building nor the water underneath it lies in the type of cryptocurrency Varyon would be. The Varyon purchasing document clarifies that Varyon would be a utility token, not a security. This is important because, unlike securities, utilities do not represent equity, tradable financial assets nor real ownership - of the Project in this case. For a similar reason, Polynesian lawyer Lallemand-Moe (2017) further explained that, even though the 7.500m<sup>2</sup> of the SeaZone would have been governed privately through a SeaZone Authority with a monopoly of the project, the state would not transfer real rights to Blue Frontiers. This transfer would require a constitutional change involving France. Therefore, it is likely to argue that, despite a SeaZone concession and Varyon holders owning floating homes, the water in the total project area would have continued belonging

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<sup>56</sup> A similar model of mixed regimes exists for floating homes in the Netherlands. Mixed regimes were created by the municipal government to give incentives to private innovations on water (De Graaf, 2009). Rotterdam has innovated with regulatory frameworks for floating constructions (de Graaf, 2012). The lead architect of Blue21, Roeffen (2018), explained that Rotterdam sells plots of water. Owners own the buildings, but the water boards own the water underneath them (Roeffen, 2018). The Water Boards, Waterschappen in Dutch, are the municipal-level in charge of the water and water space itself. These boards recognise usage and institution property rights without giving away the ownership itself of the natural resource. In a way, they use Ostrom's concept of appropriation derived from claiming, not ownership.

to the state. This means that, despite the SeaZone's inspiration in anarcho-capitalism, private property, as in the rights to buy and sell, would not be the Floating Island Project's only model of ownership.

The coexistence of privately owned homes which rest upon a public lagoon with no rights transfer means that, in the Project, two different ways to understand the private space would overlap. Each had governance implications. One would resemble how privatisation is understood by anarcho-capitalism and the other one by Ostrom. The SeaZone's ideological inspiration, anarcho-capitalism, emphasises individual rights and protecting private property (Lynch, 2017). Lynch describes the relevance of property rights in anarcho-capitalism in the following quote:

In this discourse, the role of government is solely to create and enforce the basic rules and rights deemed necessary for the functioning of the market economy. As discussed before, in libertarian philosophy more broadly, private property rights are seen as the most basic and fundamental of rights from which all others derive.

(Lynch, 2017:86)

The Project would have enabled this form of privatisation, inspired anarcho-capitalism, thanks to the approval of French Polynesia for the construction of the development and selling of floating dwellings in it. This arrangement would have allowed individuals to use Varyon to buy properties on the Floating Island. As stated above, Varyon would be used in this way. Whether the homes and platforms would be individually or collectively owned depended on what Blue Frontiers (2018e) called 'buying seasteads', or a fractional ownership of them. As for the

management of the platforms, this would depend on ownership. Some residences and platforms would be for single-use and ownership. However, the Project would also have forms of 'privatising' closer to Ostrom because other platforms and spaces would be used for shared uses and ownership. If a platform was owned collectively by several Varyon holders, it would most likely be managed collectively. If owned by a single person, that person would manage it.

However, while buildings could be owned by private individuals, the ocean cannot be parcelled as easily as land. This is the case even though some anarcho-capitalist authors (see Block and Nelson, 2015; Tannehill, 1970; Ruwart, 1993) have advocated for the privatisation of the ocean, where privatisation is understood as the right to buy and sell, in contrast to Ostrom's, concept of ownership that is derived from use. Block and Nelson (2015) explain that doing so would promote liberty, increase GDP, and avoid the tragedy of the commons. Block & Nelson's (2015) proposal was to divide the oceans with parcels. Their argument is that, because water is moving land, it is feasible to delimit private property in oceans. The underlying assumption is that parcelled plots in the open ocean would incentivise to take care of the space. While parcelling could, indeed, happen in the ocean, these authors do not recognise that resources in oceanic complex systems tend to be transboundary (see: Dietz et al., 2013). Nevertheless, there is an aspect of this idea that does not distant from Ostrom – and that add to my argument about missed opportunities related to the hybrid forms of ownership and property in the Floating Island.

The idea that the Floating Island Project would present both Ostromian and anarcho-capitalist privatisation (Ostrom in some platforms, anarcho-capitalism's in the SeaZone – and even state on the ocean) might be counterintuitive. In

McKenzie's (2011) terms, few people would disagree with condominium associations and gated communities being a form of privatising collective goods. However, stating that these communities are collective governance *à la* Ostrom is harder to digest. Nevertheless, both types of governance, anarcho-capitalism's and Ostrom's, involve forms of privatising, even though, as mentioned above, anarcho-capitalism's view of privatising involves parcelling (Block, 2016) and Ostrom's entails sharing. "Common property regimes are a way of privatising the rights to something without dividing it into pieces" - McKean and Ostrom (1995:6) point out. It is interesting to note that in this complex governance structure involving multiple stakeholders, local and global, the collective governance proposed by Ostrom and the private governance by anarcho-capitalism would coincide in more than one aspect. This would be the case, even though seasteading is usually associated with anarcho-capitalism and, as Carson (2013) conveys, Ostrom is largely appreciated by left-wing libertarians. One of the aspects where both approaches meet is in how they approach the payment of residential fees.

To recapitulate: the Island's residents would pay Blue Frontiers in Varyon for administering the Floating Island and shared spaces. These shared spaces included the ocean and some buildings, community gardens on the rooftops (Blue Frontiers, 2018d:6) and energy grids approved by the elected board of residents. Blue Frontiers was going to destine 35% of total Varyon reserves to the purpose of administration of the Project (Blue Frontiers, 2018e). This form of administration, i.e. governance, in the Project led Quirk (2017) to state that some forms of ownership in the Island would be similar to a condominium owners association. In this model, residents pay fees for the administration of services and management of shared spaces. Bell (2012:475) wrote that homeowners associations, condominiums, multiple-tenant income properties, cruise-ships and other private



institutions already provide private governance services, many of which resemble those sought by this Project. This voluntary contribution for some governance services entailing fees for shared spaces in private residential communities, is, indeed, a form of governance via the market through anarcho-capitalism inspired privatisation. However, as I suggested above, it also resembles collective, i.e., shared, forms of governance as in Ostrom because it comprises a “third form of governance” that is neither the market nor the state, and which would provide some governance services such as the rules that apply for the users.

While both ways to understand the fees payment differ, both “sides”, Ostrom and anarcho-capitalism, would, in principle, agree with this position favouring privatisation. A resource is in better shape if it belongs to someone. However, the main difference between both approaches, governance by parcelling and by sharing, lies in how privatisation is done and by who. In reality, as mentioned above, the ocean is not a closed system but a transboundary resource. Thus, parcelling can delimit areas, but it does not make the water underneath stay in one place. This means that activities in the maritime area of the Project governed by Blue Frontiers would have affected neighbouring Polynesian communities, beyond the Project’s 7.500m<sup>2</sup>, even if some forms of ownership would not have been governance *à la* Ostrom. This flowing materiality of the area encompassing the SeaZone, which not even Varyon holders would own, is one key reason, the most fundamental one, for mentioning missed opportunities to include Polynesians in documentation referring to the Project’s governance. Since neither Blue Frontiers nor Varyon buyers would own the lagoon where the Floating Island would situate, because the Project would likely have shared ownership for some aspects of it, and because resources in it, there are transboundary, Polynesians could have been included as part of the Project’s board. That is, leaving aside the also

fundamental argument that Polynesians appropriate, work and enjoy the space today.

All this exposition buttresses the claim that the Project, by virtue of having a hybrid regime, had several opportunities to, clearly and directly, involve Polynesians in the SeaZone and to plan a project where they would benefit more directly. While private properties would have been governed by the owners of the buildings, shared form of governance, which included Polynesians, could have managed space, utilities and infrastructure involving marine resources. Existing regulations in French Polynesia mention a similar idea to involve local stakeholders in discussions and large infrastructure projects. The legal study pointed out that the Environmental Code of French Polynesia supports involving the local community in the planning of projects built by one sole owner that increase the number of residential buildings. The Code states that these projects should make a public inquiry. The Floating Island, however, never did this. This lack of involvement of Polynesians is key in the events I describe next chapter. In it, I give a comprehensive account of the events which followed and how the Project dealt with these two demographics it concerned, local and global. The chapter explains why certain events gained such momentum, and how come the government turned against the Project, despite initial support.

## **6.6. Conclusion**

In this chapter, I explained why and how the Floating Island Project concerned local and global stakeholders. I used Ostrom's work to highlight why the Project concerned locals, and I employed data about Varyon to show how and why it concerned global ones. Despite concerning these two demographics, the empirical evidence presented suggested that the Project's governance and marketing

strategy targeted global stakeholders, sidelining locals ones. The evidence based on the uses of Varyon, the language of the Project's marketing, the focus of the documentation on governance and the lack of a central role of sea-level rise in various project materials. It seemed that the target demographic were individuals interested in cryptocurrencies, seasteading and in anarcho-capitalism, instead of average Polynesians who will be affected by sea-level rise.

Superficial use of sea-level rise in the Project's governance and marketing strategy was an important issue to point out because half of the motivations leading to the signature of the Memorandum of Understanding implied contributing to sea-level rise adaptation. However, the Project lacked grassroots movement with local stakeholders who will be affected. It also fall short of strategies and ways to involve Polynesians in the Project and plan it in ways that they would benefit directly. This indicates that, while, indeed, sustainable floating architecture can be used in places with rising sea levels, this first iteration of SeaZones is not targeting this specific population.

The chapter also suggested that, while fundraising for the SeaZone through Varyon would be one of the Project's critical steps, it concentrated the attention to a demographic of participants outside the desired location. Without a sound public community engagement strategy accompanying the Varyon marketing campaign, Blue Frontiers' efforts proved insufficient. As shown in the next chapter, the right social conditions and timing need to exist for marketing and legal strategies to be successful. When creating special jurisdictions which involve an alternative form of governance in a physical space, a strategy focused on international stakeholders is an important first step to attract internationally qualified professionals, but it is not sufficient to create local grassroots support. Ironically, while the SeaZone

originates from seasteading, a theory for governance which advocates for local, smaller governments and decision-making, the Floating Island Project did not publicly and repeatedly engage with the local stakeholders of the main possible location. And while the Project did weekly parties in its Tahitian headquarters, these parties were not meant for average Polynesians. This aspect of the Project reflected Ostrom's critique that the market on its own misallocates when governing the commons. Targeting global stakeholders and sidelining locals became a crucial starting point for the developments of the subsequent chapter, where I discuss the implications of not engaging continuously with local, informal stakeholders.

My general aim with this chapter in discussing stakeholders was to connect it to the next one and to show a large shortcoming of the Project's strategy. As I argued in the previous chapter, complex governance involves nested systems. It additionally entails engaging with multiple levels of stakeholders. Strategies taking nested systems and multiple stakeholders into account would have emphasised local stakeholder engagement, as much or more than global. Local stakeholders might have included, for example, Polynesian fishers or families, the government's opposition, decolonisation institutions and French Polynesian 's environmental NGOs and not just government and elites. Although these stakeholders would not have necessarily formed part of the formal government institutions I discussed in the previous chapter, they have social and cultural influence in French Polynesia. Hence, they represent a crucial demographic with which to engage for a project, like the Floating Island, to receive authentic local and public support.

## 7. CROSS-TEMPORAL AND CROSS-SPATIAL WAVES

### *7.1. Introduction*

This chapter wraps up the empirical observations of the case study. The concept of waves is the feature of complex governance I explore in this chapter. The chapter uses Sylvia Walby's (2003, 2002b, 2003c, 2009) concept of 'waves' to interpret evidence for how the interaction of networked cross-temporal and cross-spatial events pervaded the Floating Island Project and contributed to its fading. In doing so, I discuss three waves as they played out here in this research on the Floating Island Project and the attempt to set up the world's first SeaZone. These are the waves of colonisation, the Facebook wave and the protests wave.<sup>57</sup> The chapter shows how the cross-temporal and cross-spatial interaction of these waves pervaded the project. This chapter narrates how local stakeholders self-organised, online and in person, in these waves. This chapter builds on the previous ones by explaining the fading of the Project in connection with the concerns of local stakeholders who intended to avoid the nesting of the SeaZone within Polynesia's regulatory framework and the Floating Island in their lagoon.

As I mentioned in the Introduction, the term I use to refer to the Project's lack of materialisation is that it 'faded' rather than 'collapsed' or 'failed' per se. With the concept of 'fading', I convey the idea that the Project was never officially cancelled. Instead, it slowly dimmed its initial shine and media attention, as the French Polynesian government withdrew its support and the Varyon sale was cancelled.

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<sup>57</sup> While the Facebook wave can constitute a wave of protests itself, I have separated Facebook and protests because of the different type of medium.

The chapter proceeds as follows: section 7.2. contains a theoretical exposition of Sylvia Walby's concept of Waves. Section 7.3. details the first wave that influenced the fading of the Floating Island: the wave of French colonisation which took over French Polynesia. My goal with this section is to emphasise how a phenomenon that started almost two hundred years ago, and which has not ended, affected the development of the Floating Island in 2018. Section 7.4 discusses the Facebook wave. These were a series of Facebook posts, videos and comments in favour and against the Floating Island that went viral in Tahiti in the first quarter of 2018. This wave peaked approximately three months before French Polynesia's presidential elections. The purpose of section 7.4 is to highlight how online and offline spaces and waves mutually shaped each other on the fading of the Floating Island. Section 7.5 describes a series of protests organised by the government's opposition and by the fishermen and women of the municipality which would have neighboured the Floating Island. The section shows how the protests wave reinforced the Facebook wave. Section 7.6 describes the accompanying ripples which contributed to giving momentum to the waves; these include distrust towards the government and the Project's representative in Tahiti. Section 7.7 wraps up the empirical chapters.

### ***7.2.Theory: Waves***

I borrow the concept of waves from Sylvia Walby (2003, 2003a, 2003b, 2003c, 2009). Walby chose this nautical metaphor because of how it reflects the movement and power of social processes. Furthermore, she selected it because the concept carries with it the notions of nonlinearity, spatiality, temporality, gradualism, escalation and rupture (2003b:2). Walby uses several analogies and explanations to support her choice. One of these reads:

A wave is a distinct set of social processes with a particular kind of temporal and spatial characteristic that can suddenly transfer social practices from one location to another; it can build suddenly, interact with a social system, and either produce change or decay or hybridize. It is especially important to understanding the implications of emergent civil societal projects on established social formations.

(Walby, 2009:100)

To explicate the idea that waves are processes and movements, rather than institutions and systems, Walby makes an analogy with the wave-particles model in quantum physics. She writes:

Light is energy that is without mass and takes the form of a wave, while particles have mass and organization. Likewise, the concept of waves is likewise concerned with the transmission of energy – this time social energy – in a form and process that are not heavy with institutions.

(Walby, 2009:96)

Besides quantum physics, Walby explains that the term waves draws inspiration from theories of social movements. For instance, from the Feminist movement, Walby extracts its peaks of visible activism, and that the absence of peaks during some periods does not mean that the movement has disappeared. It lies there, slowly building up, dormant, ready to burst at any time. In Walby's (2009:96) words: "Like an ocean, feminism is with us always as long as there is gender inequality, but there are waves of visible activism only some of the time." Other examples of peaking waves are environmentalism and protests in social movements (Biggs, 2001). Further examples Walby mentions occur over larger periods. Globalisation

(Chase-Dunn et al. 2000) is one of them. Walby (2003b) stresses that waves can sometimes be powerful enough to dwindle the foundations of societies. She discusses four characteristics which make them potentially so powerful. Each of these came out in this chapter's empirical observations. First, waves are networked. Second, they are cross-temporal. Third, they are processes. Fourth, timing is key for them to gain momentum.

In this particular case study, I argue that we see Walby's notion of waves in the form of the waves relating to colonisation, Facebook posts and protests. The interference of these waves, I suggest, led them to gain significant momentum<sup>58</sup>. Such momentum explains, from a complex systems perspective, the fading of the Floating Island Project, through a concept that is not mainstream in the complex governance literature. However, as we shall see in this chapter, waves can be a term with significant explanatory importance in complex social systems. One reason why it is so powerful is its relation to the concept of networks. In the words of Walby:

The notion of wave bears some resemblances to the concept of network, in that it is an attempt to conceptualize linkages which are not simple, direct, and linear, and in which there are loose connections between individuals. But it is more specific in the nature of these linkages, with its specification of a beginning, of its stimulation of a concatenation of events, intensification through endogenous processes, and of the primary direction of its momentum.

(Walby, 2009:98)

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<sup>58</sup> Walby uses the term interference instead of interaction because this is the term to denote the action when waves collide with each other.



It was precisely this networked nature of the waves which allows seeing how colonisation, Facebook posts and protests interacted with each other, reinforced each other, and built upon each other. The strength of such interaction solidified specific positions in French Polynesia towards the Project, ultimately leading towards its fading. It was the waves' interactions, and not each wave in isolation, which critically influenced this process.

The cross-temporality of the waves is also relevant for the case study, and fundamental to understanding complex systems. Uprichard (2017) writes that complex systems are time and space sensitive. She explains that this means they adapt and co-evolve in time in ways that bring out how the past is co-responsible for their present and future. However, Uprichard adds that the future and anticipations of it also impact whether a system changes in the present. In a similar way of thinking, Uprichard and Byrne (2006:668) highlight that people's narrations involving complex places help understand the changes places have experienced through time. This is because people reflect into their accounts and narrations the projections they have of their present, past and future of the places and their relation to them. While this chapter is about waves and not about change through time per se, nor how agents perceive change, the quotes I present in the next sections give a sense of how Polynesians view the place in which they live, the relation they have had with it and the way in which they want or do not want their home to change. As Uprichard and Byrne write: "People's stories matter. They matter because they allow us to see how people interpret the world and how they perceive themselves in that changing world" (Uprichard and Byrne, 2006:674). Polynesians' written Facebook registries show precisely this. Their written and oral

opinions and registries about the Project are, thus, of specific importance for this chapter, for their reflect and link each of the waves.

Indeed, it may seem that the French colonisation of the Pacific is too far removed to events which happened on Facebook in 2018. However, Walby conveys that waves are networks of events crossing different temporalities. To explain this temporality in waves, Walby writes:

The concept of waves is an attempt to catch the way that a critical event can have repercussions on social formations elsewhere. A wave starts in one spatial location, builds rapidly through endogenous processes, then spreads out through space and time to affect social relations in other locations. These events are connected, but not rigidly, passing through networks and social institutions.

(Walby, 2003b:14)

In another part, Walby explains with an example:

A wave of political activity may be initiated at one point in time and space, but it may travel to other places, probably at later times, and probably have somewhat different impacts, depending on the prior institutional structure at those locations.

(Walby, 2003b:16)

This cross-temporality becomes key in the developments of next sections regarding the Floating Island.

The fourth powerful characteristic was *the timing* of the waves. Walby explains that if a wave takes place too late, it is likely not to be impactful, even if it carries everything else needed to be potentially relevant. She adds that, unlike a badly timed wave, one that peaks in the right time, with the right environmental conditions, can lead to unprecedented chaotic results. This is visible in my case study. The climate of the upcoming French Polynesian presidential elections of April and May 2018 was a deciding factor in the waves' momentum and in the Floating Island's fading.

The interference of the waves peaked approximately three months before the presidential elections. This timing was fundamental to the project's politicisation, by making the Project more visible and subject to political campaigns, controversies and debate. Timing is the reason why critiques made in 2018 were more impactful than those of 2017. Indeed, since the government announced the signature of the Memorandum of Understanding in January 2017, the Tahitian and French media were generally sceptical and critical towards the Project. However, 2017 ended smoothly for the Floating Island. In contrast, the closer the presidential elections, the more protests and critiques against the Project surfaced.

In a nutshell, the concept of waves, their networked nature, their temporality and their timing provide explanations for why the French colonisation of Polynesia was fundamental to what took place on Facebook and in Tahiti two centuries later. The interaction and interference of these waves constituted the main stage of the Project's fading. Such fading is the focus of this chapter.

### **7.3. Wave 1: Colonisation**

French colonisation of the island of Tahiti and its surrounding archipelagos was key in the Floating Island's fading, 176 years after it began. This is because colonisation and its impacts live vividly in Polynesian politics, culture and institutions. The constrained legal and governance autonomy consequence of colonisation left in Polynesian indigenous peoples, the Mā'ohi,<sup>59</sup> feelings of vulnerability towards foreign actors (Al Wardi, 1998, 2009). Al Wardi (2009:86) argues that, due to this, Mā'ohi feel discontent towards the European and Chinese arrival in Polynesia – the two nationalities that have migrated the most to Polynesian islands. One significant reason for this is that these groups hold a higher socioeconomic status than Polynesian natives (WENE, 2012). Because of this, Polynesians' are often against foreign projects, especially those which can increase further their lack of autonomy and control over their territories. This is how the wave of colonisation became an important factor in turning the Floating Island into an enemy of *many* Mā'ohi and Polynesians.

Before expanding on the role played by colonisation in the Floating Island's fading, I shall note that this thesis acknowledges the extensive literature on colonialism, post-colonialism, neocolonialism and decolonisation. Up until now, I have referred to Said (2002) and his concept of 'orientalism' and Spivak (2003) and her work on the 'subaltern' in some parts of the thesis, but I should expand a bit more, specifically in relation to what authors say about French Polynesia. This literature is mostly covered by historians, anthropologists and social scientists. A significant portion of this literature speaks directly to several important issues of

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<sup>59</sup> Mā'ohi are indigenous from Polynesia. However, here I refer to Polynesians instead of Mā'ohi because, in addition to the reasons I provided in the previous chapter, French Polynesia has received several waves of migration, from places like China and France. Thus I am trying to be more general.

this case study. For example, Miles (2005) highlights the limited political autonomy of former colonies that are still under French control. Similarly, Mrgudovic (2012) criticises one widespread definition of independence in French Polynesia, whereby it is understood as the capacity to self-govern. However, self-governance is exercised within limits to sovereignty and autonomy that France defines. Other theorists, such as Gagné (2015), highlight the sidelining that Polynesian indigenous have in France's affairs. Likewise, Newbury (1980), studying the cultural transformations of Polynesia after foreign settlement, highlights the substitutions of religious and administrative institutions. In like manner, Riley (2007) writes that missionaries produced transformations marked by non-voluntary processes of legal, economic, religious and linguistic assimilation. The decolonisation of Oceania is also a topic extensively explored in the literature (see Aldrich, 2000), and one which could be relevant for this thesis. However, one which would likely be more applicable is neo-colonialism, used by Klein (2018) to refer to the waves of cryptocurrency enthusiasts that try to create enclaves in islands, such as in Puerto Rico. The same concept is applicable to the Floating Island.

However, despite the trajectory and importance of this literature for the case study, it is not the primary literature of this thesis. While the adverse effects of colonisation are undeniable, my goal here is simply to show how the institutional legacy of the wave of colonisation of French Polynesia played a significant role in the Floating Island's fading and, therefore, pervaded the SeaZone. That said, the first way in which the wave of colonisation pervaded the SeaZone was by making Polynesians sceptic of "experimental" projects in their oceans. One origin of this lies in how French colonisation was detrimental to the Polynesian ecosystem.

From the mid-sixties to the mid-nineties, France used the Polynesian islands of Mururoa and Fangataufa as nuclear tests sites. Between 181 (Wright, 2008) and 193 (G.A.UN, 2018) nuclear tests took place in these islands, during this period. The tests happened with the support of the French Polynesian government and despite the opposition of the population (Danielsson, 1990), NGOs' like Greenpeace and neighbouring countries such as New Zealand (Wright, 2008). Nuclear testing in Mururoa and Fangataufa polluted the lagoons, caused species to die, generated physical malformations in newborn human babies, and increased cases of cancer (see Stanley, 1996). In 1979, one underground nuclear test broke one part of Mururoa, causing a tsunami. This accident contaminated the marine environment in French Polynesia, and exposed its habitat to radiation levels beyond normal rates (Livingston and Povinec, 2000). Today, Polynesians are concerned because there is still a nuclear reactor buried in Mururoa, which many Polynesians state is leaking, and is simply a "matter of time" before the island entirely collapses (RNZ, 2019b).

The environmental effects of colonisation were essential for the case study because several Polynesians connected the Floating Island with nuclear tests, given their foreign origin and experimental nature. Several thought the Floating Island would contaminate the oceans. We can see the connection between French nuclear testing and the Floating Island in some Facebook comments made during the Facebook Wave. All comments were originally posted in French and have been translated by myself here in the thesis. One user sarcastically commented: "it must be done in Mururoa, apparently there is not a radioactive threat" (FacebookUser2, 2018). Other user asked: "two small questions...why Atimaono? Why not Mururoa?" (FacebookUser3, 2018). And another user commented: "We get screwed by the government...the government says yes to a bunch of investment

projects without even worrying about the impact on the environment" (FacebookUser4, 2018).

It is important to note that the environmental critiques, however, did not seem to correspond to the project's goal of trying to achieve environmental restoration. To achieve the purpose of making an environmentally restorative SeaZone, Blue21 wrote an Environmental Assessment Framework -EAF- (Blue21, 2017:1). The document contained environmental challenges of the project, discussed its environmental policy for floating infrastructure and identified potential environmental impacts. These would serve as the starting point for a strict restoration framework. Blue21 saw the Floating Island as an opportunity to set a high environmental bar for future projects of floating infrastructure, in balance with local communities and ecosystems.

Some examples in which the Project sought to go beyond sustainability are carbon and oxygen levels, toxicity, PH, water temperature, nutrients, shadows and artificial light (Roeffen, 2018). Here I explain this restoration approach using light and shadows (Blue21, 2017:15). Coral reefs and animals living in them need sunlight. Therefore, the Floating Island's design was 'long and slim', to prevent platforms from permanently casting shadows on the sea-bed. A slim design would allow the passage of light underneath platforms while the sun transited West to East. The Project would place platforms over a depth that allowed such light passage. There were similar additional considerations. Ironically, despite the restorative environmental position, the Project faded away after having received environmental critiques. The environmental legacy of colonisation was so strong that committing to a restorative environmental framework was not enough for the

Project to convince the necessary informal local stakeholders that, from an environmental point of view, things were going to be different from their past.

Apart from the environment, ancestral knowledge, culture and traditions also suffered from the wave of colonisation. Bolin (2004) highlights how French missionaries transformed religion, beliefs and even sexual expression in Tahiti. Seafaring (Sharp, 1964), Mā'ohi's technique for using the stars as a map to navigate, was almost lost too. Other aspects, such as speaking Tahitian, traditional Polynesian tattooing, females wearing flowers on their heads and Tahitian dancing, were forbidden (O'Reilly, 1977; Présidence, 2017). These prohibitions, aimed at transforming Mā'ohi's ways of living, solidified views against foreign enclaves in Polynesian islands.

The past thirty years have seen a revival and reappropriation of Mā'ohis' cultural heritage. Schools now teach Tahitian language and promote Tahitian dancing. These revivals are happening as the colonial power, France, becomes less involved. The process of reconstructing ancestral traditions and the historical memory can be seen in some artistic expressions of popular culture. One example is the song Fafaaite, which in Tahitian translates as reconciliation, by the Polynesian band Pepena. The lyrics of this song translated from Tahitian to French song sing: "look at me... I'm one of your child... I didn't receive the wisdom of our ancestors... Look at me closely... I chose to sing in our language..." (Pepena, 2016). Similar practices of reappropriation have created a sense of unity among Polynesians with Mā'ohi origin. Given the institutional and cultural impact of colonisation of Polynesia, some Polynesians opposed the Floating Island Project, fearing it could continue the institutional path-dependency that started with the original foreign settlement.



One way in which complexity theory can help to understand the Polynesians' opposition to the Floating Island is to see it as an attempt to break the institutional path-dependency in which they have been locked in for over 170 years - hence why many Facebook comments against the Project seemed, indeed, connected to colonisation. For instance, the nationality of the project's participants was one topic which emerged recurrently in many comments during the Facebook and Protests Waves. One of these comments read: "All our heritage is looted by non Polynesian... our government has never done anything for its people" (FacebookUser5, 2018). Another one read: "It's clear make a speech at the UN preservation here and there and do the opposite redo the same mistakes of the past for the rich" (FacebookUser5, 2018). Similarly, Pauline Sillinger, a Polynesian sustainable-development specialist who worked for Blue Frontiers, told Nature Journal: "We have a history of being taken for fools...Nuclear testing, big hotels, nice, smiling, white, intelligent people telling us it'll be good for us" (Marris, 2018). Alike, the most viral video of what I describe as 'the Facebook wave' reflects the critique towards foreigners. In that video (Amaru, 2018), a Polynesian man with Mā'ohi features, who described himself as unemployed, voiced his opposition to the project's foreign financing, claiming that the project's funding came from millionaires in the United States.

It is important to note that, at the time, it was not possible to know the nationality of all the project's investors, since the Varyon crowd-sale had not taken place. In any case, once the pre-sale began, Blue Frontiers did not allow United States' citizens to take part in the sale, as I explained in Chapter Six. Therefore, critiques against United States millionaires financing the Floating Island did not entirely stand. While Blue Frontiers, as some startups, ran a round of investment for friends

and family first, the majority of the Project's funds would have come from selling Varyon.

Many of these critiques against United States millionaires financing the Project tended to arise in The Seasteading Institute's seed funding by PayPal's co-founder, Peter Thiel. Almost every news article about the Project regurgitated Thiel's involvement in seasteading, even though Thiel ceased its financing 3 years before Blue Frontiers was registered. However, critiques like Amaru's were commonplace. At the end of 2017, as I noted in the previous chapter, Blue Frontiers responded to Polynesians critique about the Project being for foreigners by sharing it would prioritise 25% of the project's residences to Polynesians (Quirk, 2018a). However, this was not well received.

The following comments are some examples of how many found it suspicious that a project interested in adaptation to sea-level rise (see Blue Frontiers, n.d.-c) would only prioritise 25% of residences for Polynesians. One user wrote: "Are the floating islands here to deal with the problem of water? But only 25% of Polynesian people will be able to Isn't there an inconsistency in your saying?" (FacebookUser9, 2018). Another noted, "But why Tahiti and not directly to the Tuamotu<sup>60</sup> where the rise of the water will be more catastrophic and its low in fact" (FacebookUser6, 2018). The comments go on: "but you only wish 25 % of this people on this island with you and tourists" (FacebookUser6, 2018); "ONLY!!! 25% of the space will be occupied by locals! Who are the other 75%?" (FacebookUser7, 2018). Similarly, another

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<sup>60</sup> The Touamotu is a group of islands in French Polynesia. French Polynesia has five group of islands and several archipelagos. Some of these islands, like Tahiti, are volcanic islands and tend to have tall mountains. However, other islands, such as those in the Tuamotu archipelago, are coral atoll islands. Atolls tend to be almost flat, because they are composed by a coral reef, where there used to be, millions of years ago, volcanic islands. Atolls will be more affected by rising seas because of their almost flat territory.

user commented, this time in response to one video that I posted while being Blue Frontiers' 'seavangelesse':

Okay Nathalie, and how do you explain to our people already in difficulty that we will build a place where you will have all the rights. That's the problem. How do you explain that there will be only 25% of the population who can live there? Which corresponds strangely to the percentages of the richest in Polynesia. Do you have any idea of the current social divide in Polynesia? Do you know there's a lot of people in financial difficulty?

(FacebookUser8, 2018; my translation)

Perhaps some answers to Polynesians' questions about why only 25% of residences lie in the seasteading mindset of colonising 'unclaimed' places, imprinted into the Floating Island Project. This viewpoint sees 'third world countries' as uninhabited places that are ripe for the taking. For example, years before the Floating Island, authors at The Seasteading Institute (Mutabdzija & Borders, 2011a) wrote that one advantage that Maritime Special Economic Zones could have over Special Economic Zones in land was the lack of disputed land. This misconception is visible in Friedman & Gramlich's quote:

easiest thing for us is to ally with small island nation to open a free trade zone/business park somewhere in its EEZ. Very strong legal status. (Unfortunately, also in the middle of nowhere - South Pacific). Secondary to that, we need a nation on our side. But will it let us have autonomy? Dunno.

(Friedman & Gramlich, 2009:105)

The role played by colonisation in the creation of this Floating Island Project, and its connection to nationality and cultural differences, brings out one ironic aspect of the Project and its relation to diversity. We can understand seasteading as a governance interpretation of homophily. Homophily (McPherson et al., 2001) is the principle which explains why "birds of the same feather fly together" - that is, why people tend to cluster with others similar to them. Seasteading is homophily in the sense that foundational seasteading authors expect that individuals on seasteads would cluster based on shared traits. According to foundational seasteading authors, and as I explained in Chapter Two, choosing governments can lead to higher political satisfaction. Ironically, this idea played a reverse role in the Island. To create a solid opposition against the project, Mā'ohi strengthened their homophily ties and sentiments of nationalism through the reinforcement of the notions of themselves and 'the other'. Polynesians did not want more foreigners in charge of their lagoons.

#### **7.4. Wave 2: Facebook**

The second wave which led to the Floating Island fading was, I argue, the Facebook wave. This wave mainly consisted of Facebook videos that went viral in Tahiti from January to April 2018. Facebook is the primary form of communication in Tahiti. I noted this both times I visited Polynesia in 2017. Naturally, because of its widespread daily use, Facebook became the main medium to voice opinions about the Project. I refer to the momentum gained by these videos as waves based on Walby's endorsement of Biggs's (2001) idea that social movements, including protests, behave similarly to natural processes, such as ocean waves. Social movements and natural processes have positive feedback loops that generate

rapid processes of propagation. This characterised the events I discuss and describe in this section.

Based on the number of reactions, there were four key viral videos containing people addressing Polynesians during the Facebook wave. These videos involve several stakeholders. The first video is by a local informal stakeholder, Amaru, the Polynesian man with Mao'hi features whose video I introduced in the previous section. I posted the second video of what became the Facebook wave, while I was still representing Blue Frontiers. Jean-Francois Bouissou, Minister of French Polynesia, posted the third video. The fourth one involves French Polynesia's president Edouard Fritch. From these videos, I extracted comments and selected those comments which more broadly represented popular views in other comments. A great majority of these video comments were by users with at least one Polynesian name or last name. Their profile pictures and or locations also showed that most were from or in Polynesia. They pictured themselves at the beach or with their Polynesian families and babies. Here I discuss how the Facebook wave interfered with the wave of colonisation, making the distrust towards foreign settlement in the island appear as a recurrent topic in many of the comments.

The video that started the Facebook wave (Amaru, 2018) was posted publicly on January 30th 2018 on the personal profile of a mid-forties Polynesian man of last name Amaru. In his video, Amaru criticised the Floating Island Project and the government's support. Amaru described himself as unemployed. He expressed that he did not see how the Project could improve the Polynesian economy nor bring jobs for his peers. He voiced how tired he was of hearing about the Floating Island Project, describing it as an independent state inside French Polynesia set

up by foreign millionaires to evade taxes. Amaru's video received over 100,000 views. For an island with approximately 180,000 inhabitants, this number suggests that a significant portion of Tahiti's inhabitants saw the video, even if some views came from the same users. At the end of 2018, when this thesis' data collection process ended, the video had 4,000 native shares, 532 direct comments and 2,000 reactions. Most reactions were favourable. There were 1,400 likes, 482 hearts, 85 surprised faces, 9 laughs, 7 angry faces and 3 crying faces.

Comments in Amaru's video addressed the same topics as comments in the other videos of this wave. One of the most recurrent topics concerned the Project possibly polluting the lagoon and killing the coral reef. Others expressed a lack of understanding for how floating architecture could contribute to sea-level rise adaptation. Some questioned why building the Project in Tahiti, a volcanic island that, unlike flat coral reef atoll islands in the Tuamotu archipelago, would not be significantly affected by sea-level rise. Similarly, others wondered why the Project would build an artificial island in a country with over 118 natural islands, many of them inhabited. Polynesian doctor-in-law Lallemand-Moe (2017a) shared this last concern, even though Lallemand-Moe (2017b) conveyed that some opinions against the Project were not always rational.

Multiple responses to Amaru's video reflected feelings of unity towards a common enemy: rich foreigners. In reaction to Amaru's critique, one user wrote to Amaru: "you have spoken for the Tahitian people" (FacebookUser10, 2018; my translation). Another comment read: "don't come here. Piss off with your invention" (FacebookUser11, 2018; my translation). Similarly, another one typed: "I don't think that's paypal but Bitcoin's boss. That's right, it's gonna destroy the ecosystem They love the \$\$\$\$\$\$\$ too much" (FacebookUser12, 2018; my translation).

Although most comments were negative, several were not. One example read: "Excellent idea" (FacebookUser13, 2018). Overall, younger users' profiles seemed more open or neutral towards the Project than profiles of older people. Some young people were even curious about what the Project could mean for French Polynesia's economic future. One example was a comment in the press by a young female Polynesian student at the Tahiti Business School, who volunteered during the First Seasteading Tahiti Conference:

It's a very innovating project with many new technologies that we would never imagine here. In terms of the responses in social networks, one can see that the eldest ones completely disagree with the environment being touched in our Fenua. Besides, they are Americans... But for the youth, we are very interested because, as we've been told, it can create new jobs.

(Hereiti Vairaaroa, 2017; my translation)

It is not possible to know if most comments were negative because the majority of Polynesians were against the Project or because the medium, Facebook, incentives polarising attitudes. Vaccari (2013) explains that the internet can help vocalise political views and shape them. However, Del Vicario et al. (2016) argue that platforms like Facebook confirm biases about specific phenomena, making it more likely that users receive more information about what they already believe because of reinforced selective exposure. Del Vicario et al. add that the internet is where individuals today reaffirm their political orientations and views. Indeed, online social media, thus, has been said to behave as an echo chamber. While this aspect is a limitation of social media, or an advantage, depending on how one

looks at it, it does not make the concerns of some Polynesians regarding foreign enclaves less valid. Their perspective becomes stronger when understanding that the Mā'ohi's word for their land, Fenua, joins together the island and the community. Several Polynesians mentioned their Fenua when commenting against the Project in Tahiti.

After Amaru's video, and acting as a spokesperson of Blue Frontiers, I publicly posted a video in my personal profile (Mezza-Garcia, 2018b), where I spoke in French in favour of the Project. This was only 7/19 months into my participation in the Project and 2/3s into the data collection process. I had not yet begun to analyse the information I captured while being a participant/observer, and this reflects in the video. Note that my position in the video does not share the more objective standpoint that I try to convey in this thesis. In this thesis, the 'side' I take is that special jurisdictions, such as SeaZones, need to understand better the different implications of dealing with complex governance systems, if they wish to be successful. In the previous chapters, it involved engaging, more realistically, with diverse stakeholders on multiple levels and institutions. In this chapter, engaging with complexity means understanding the cross-temporality and cross-spatiality of events. It means taking into account sensitivities of locations and their history. That said, in the video I defend the Project. I explain that most of its investors were not American millionaires, and I expressed admiration for Polynesian culture and the Tahitian language - which I was trying to learn back then. I mentioned that the Project was small and that environmental protection was one of its priorities. To support this last idea, I invited viewers to look at Blue21's (2017) environmental study. This video also went viral during the peak of the Facebook Wave; in one week of posting, it reached over 50.000 views. When the data collection process ended, the video had 675 native comments, 959 shares and 817 reactions. There



were 431 likes, 222 angry faces, 118 hearts, 22 surprised faces, 21 laughs and 3 crying faces. As in Amaru's video, comments in this video evidenced some general negative opinions about the Project.<sup>61</sup> I recognise the irony and the decolonial role I played by being a woman from the Global South defending a project with characteristics that were not going to be favourable for other Global South peers. I discuss more in depth the ethics implications of my role and this video in section 4.6.

Comments on my video were similar to those posted in Amaru's video. One user wrote: "Sad world where the superich only think about becoming even richer at the expense of the countless small hands exploited instead of thinking about solutions favourable to the whole population" (FacebookUser14, 2018; my translation). Another comment reads: "NO to the floating islands and NO to the profit of rich people" (Facebookuser15, 2018; my translation), while another one added: "Same style as Marlon Brando's island. That for the rich" (Facebookuser16, 2018; my translation).<sup>62</sup> One user replied to the Marlon Brando comment by writing: "This has nothing to do! Marlon Brando bought the island, it's private. And they pay their taxess!! Unlike this floating island where no tax will be returned" (Facebookuser17, 2018; my translation). Additional comments referred to language.

Some users either praised or criticised my use of French in the video. One favourable comment read "Look in her Facebook, there is a video where she is in Tahiti (I think that at a museum) and she speaks in French so it is not a danger, we should congratulate her because she speaks as she can and she is going to learn Tahitian but it's so cool" (FacebookUser18, 2018; my translation). Other

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<sup>61</sup> I recognise the irony and the decolo

<sup>62</sup> Marlon Brando bought an island in French Polynesia, Tetiaroa, 4 hours away from Tahiti. The island currently hosts the most expensive hotel in French Polynesia, and it is frequented by international celebrities and politicians.

users criticised: "Of course, she was recruited precisely because she speaks French" (FacebookUser19, 2018; my translation). It seems, with these and similar comments, that users were not expecting that a non-Polynesian member of Blue Frontiers spoke French. Language is an important topic in this discussion and in this section because of its connection to nationality. Both, nationality and language, are sensitive topics because of their connection or derivation from the wave of colonisation.

The third video of the Facebook wave was by a government stakeholder. On February 1st, Jean Cristophe Bouissou, Minister of Housing in French Polynesia and of the Blue Economy, published a 26-minute video on his personal Facebook profile (TNTV, 2017), in which he defended the Floating Island Project. Bouissou was the government representative who signed in San Francisco the Memorandum of Understanding in 2017. Since then, he showed himself as a supporter of the Project (TNTV, 2017j18). At the end of this thesis' data collection process, Bouissou's viewers had been watched this video over 18.000 times. It was shared natively 282 times and had 210 reactions and 284 comments. From the reactions, there were 102 likes, 88 angry faces, 10 hearts, 7 laughs and 3 surprises.

In the video, Bouissou explained that the Project could help with French Polynesia's commitment to finding solutions to adapt to sea-level rise. He conveyed that the Project could bring to the country knowledge and technologies from Silicon Valley.<sup>63</sup> The Minister also said that critics in social media had not read

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<sup>63</sup> Another way to read this is as Kapoor (2004:829) frames it: "working in development inevitably positions us within a 'development discourse', where the North's superiority over the South is taken for granted, and Western-style development is the norm. Our encounters with, and representations of, our 'subjects' are therefore coded or framed in terms of an us/them dichotomy in which 'we' aid/develop/civilise/empower 'them'.

the proposal submitted to the government at the end of 2017 and, therefore, critiques did not sustain. Bouissou's video closed with him saying that President Fritch would not impose the Project over the population. He emphasised on the fact that the Memorandum of Understanding was non-binding.

Compared to responses in other videos, many responses to Bouissou's video tend to be short and expressed a simple idea: many Polynesians did not want the Project in their lagoon. For example: "Independence! Leave Tahiti alone!" (Facebookuser20, 2018; my translation); "nothing good stop this blooper no floating island here" (Facebookuser22, 2018; my translation); "No Floating Islands here, leave our lagoon alone" (Facebookuser22, 2018; my translation); "Don't touch our lagoon" (Facebookuser23, 2018; my translation); "no, no floating islands at ours" (FacebookUser24, 2018; my translation). Longer comments, such as the following, reflected the same position: "Mr Bouissou we don't care about your new technologies we don't want your floating islands in our lagoons one point and that's all and stop politicising our negative reaction against this project" (Facebookuser25, 2018; my translation).

Bouissou, like Amaru, connected the Project to the wave of protests by saying that the timing near elections created political interests seeking to hinder the Project. Indeed, the closer the presidential elections, the more the political interests politicised the Project. The protagonists were the government and the opposition. Thus, political parties became key actors in the intersection of the Facebook and protests waves. The controversy escalated to national television.

Two weeks after Bouissou's video, the French Polynesian president and presidential candidate from the political party Tapura, Edouard Fritch, did a political

manoeuvre typical from electoral times. In national television, Fritch contradicted Bouissou's video by saying that he had never seen the Project of Atimaono. Fritch claimed this, even though he addressed seasteaders on video during the signature of the Memorandum of Understanding in San Francisco, one event of the Tahitian conference was a dinner at the presidential palace, which I personally attended, and that his special advisor, Thierry Nhunfat, accompanied The Seasteading Institute throughout the entire process until the Memorandum (TSI, 2017a). Fritch's words on TV were:

At the Assembly of French Polynesia I learnt that there is a project in the lagoon of Atimaono 300 meters from the bank for 150 hectares. I have never seen a project on Atimaono and I want to tell viewers that I do not support this kind of project in the lagoon here in Tahiti. It would be furious madness

(Fritch, 2018; my translation).

President Fritch's position also contradicts with what Marc Collins Chen (TNTV, 2018b), Blue Frontiers representative in Tahiti, told the press two weeks earlier. Collins said that he met the cabinet of the vice-president every two weeks after the studies were submitted to the government.

Two weeks after Fritch's statement, his political party published a Facebook press release about the Project (Tahiti-Infos, 2018a). The announcement stated that one of the opposition's representatives, Valentina Cross, instigated the controversy about the Floating Island. Cross was the politician from the municipality of Teva I Uta that had advocated for more Mā'ohi participation in the government at the United Nations in 2018 (UN, 2018b). The communication of the Tapura political

party also explained that the Memorandum of Understanding (2017) was a collection of reciprocal intentions rather than a binding legal contract. Moreover, It stated that the deadline of the document's validity passed in 2017. The press release concluded that because the date of the MOU had expired, the controversy about the Floating Island was purposeless. It was amid this wave when the Floating Island, a special jurisdiction seeking to create forms of governance beyond representative democracy, clearly began fading prey to electoral campaigns. Ironically, trying to create spatial extraterritoriality, the Island became prey to one of the most territorial forms of governance: elections.

### **7.5. Wave 3: Protests**

Three months before to the French Polynesian presidential elections of 2018, paralleling the online Facebook wave, there were several physical protests against the Floating Island. In a way, the Facebook wave gave birth to the wave of protests, since videos like Amaru's (2018) and several comments instigated Polynesians to protest in the streets. For instance, one comment read: "we must stop the massacre people rebel yourself!! for the future of our children" (Facebookuser26; my translation). Or "people of Oceania, rebel yourself and act together for the future of our generation before it's too late. Let's rise" (Facebookuser27, 2018; my translation). And "we must organise a protest" (Facebookuser28, 2018), "not to this destructive project. If we must go to the streets, I'll be there" (Facebookuser29, 2018).

In this way, the colonisation and Facebook waves interfered with the Protests wave. If the interaction of the wave of colonisation and the Facebook wave reflected the cross-temporality of waves, the interaction of the Facebook and protests wave showing their cross-spatiality. This is because one was on Facebook

and the other one at the beach. While cross-spatiality was not an original feature of waves studied by Walby, it is worth recognising it as a feature of contemporary complex governance which, given the relevance that social media and platform-mediated interactions have today.

There were three main forms of protests involved in politicisation of the project. First, there were protests at the Assembly by the opposition. Second, there was an online petition against the Floating Island. And third, there were protests at Atimaono beach and the streets by fishermen and women. Protests politicised even further the Floating Island. One prominent voice of the opposition, Valentina Hina Cross, protested against the Project during an extraordinary session of the Assembly on the February 14th. Cross was from the opposition's political party, Tavini, and represented the commune Teva I Uta, which encloses the Atimaono beach. Cross' protest consisted of holding posters which said 'Do not touch our Atimaono lagoon'. The politician told the press that she protested because the Project was for libertarian millionaires of Silicon Valley and not for Polynesians (Actu.fr, 2018). The press confronted Cross about the Floating Island's financing, defending that it would be funded entirely with private funds. They asked her why was this worse than the 100 million Polynesian Francs that the government would spend for a port at the South of Tahiti to accommodate larger cruise ships; something which would be more environmentally impactful than the Floating Island. Cross replied that her main issue with the Project was its permanence in the lagoon and its long-term impact on the lives of the inhabitants of the commune (Actu.fr, 2018). She concluded that her goal was requesting the government to cease relations with the Project and detract from the Memorandum of Understanding. While the local press recognised political interests involved in the

Floating Island's politicisation during the presidential campaigns (Tahiti-Infos, 2018c), Cross's protest reinforced the negative image of the project.

Responses to Cross' protest in social media varied. Many comments favoured her actions. Others questioned whether Cross' political party, Tavini, was truly against the project. Doubts emerged due to meeting the minutes of a visit in 2017 where the leader of the opposition, Oscar Temaru, met Blue21 at their Floating Pavilion in Rotterdam.<sup>64</sup> The president's political party, Tapura, supported these doubts with a Facebook post (Tapura Huiraatira Officiel, 2018). In it, Tapura pointed out that the minutes suggested Temaru's opinion of the Project was favourable. Furthermore, the government's party stated there was no reason for protesting that day at the Assembly, given that Minister Bouissou had publicly admitted that the Memorandum of Understanding was non-binding. Hence, the president's party accused Cross of taking advantage of the camera presence in the extraordinary meeting of the Assembly, calling her protest "a real media show by branding" (Tapura Huiaatira Officiel; my translation).

A second form of protest against the project, also led by Cross, took the shape of an online petition. Cross created this online petition two weeks prior to her protest at the Assembly. She entitled the online petition 'Against The Polynesian Government's Floating Island' (Avaaz, 2018).<sup>65</sup> Cross was also involved in the creation of a Facebook page against the Project, called Paruru la Atimaono (2018), which still had weekly posts against floating city projects in December 2019. Around 1.600 people, less than 1% of Tahiti's population, had signed the petition

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<sup>64</sup> The Floating Pavilion is Blue21's signature floating building. The Global Centre for Adaptation, a project in collaboration with the United Nations, will place its floating building besides it.

<sup>65</sup> The petition's name in French was: Contre le projet d'îles flottantes du gouvernement de la Polynésie: Paruru la Atimaono.

when the elections finished. It might be important to note that, in the past, Cross had been accused of defamation (La1ere, 2017). Correspondingly, the petition expressed certainty about likely yet unclear aspects of the project. It read that the SeaZone would include a security perimeter of 100 hectares, which would ban fishermen, boaters and residents from their activities in the project's area. As I explained on Chapter Six, while the Project sidelined Polynesians, their exclusion was by omission and by the use of language, but this did not necessarily entail a security perimeter. The petition also mentioned American millionaires financing the Project. Therefore, as with other events of the waves, nationality was an important topic in this petition. This time, the petition stated that American investors led the Project and referred to it as a Tax Haven.

Cross was a linking point between the wave of Protests and the Facebook wave. In Amaru's (2018) video, she wrote: "Thanks, Sam Amaru. I shared on my wall and a friend shared in the group Paruru la Atimaono, thanks" (my translation). Likewise, on the video I posted (Mezza-Garcia, 2018b), Cross wrote: "Please sign the petition online in the group la atimaono group: not touch our lagoon! No Floating Artificial Islands in mataiea" (my translation).

The petition and the Facebook waves instigated additional protests (TNTV, 2018a), this time led by the Fishermen Collective of Mataieia, 'Te feiā rava'ai nō Mataiea' (RNZ, 2018a, 2018b; Tahiti-Infos, 2018b). Mataieia is the lagoon neighbouring Atimaono. It is also located in the municipality of Teva I Uta. The link between both waves is visible, in so far the Fishers Collective reproduced information about the security perimeter and the ban on fishing mentioned by Cross. The leader of the Collective, Georges Ateo 'Papa Ko' (2018), posted a video to Facebook in which he rejected the Floating Island. Ateo did not want the project, neither in Atimaono



nor in the rest of Tahiti. His argument was simple: the lagoon was their life. Ateo called for a nine hours procession on the 7th of April from the Tehoro Marine to Atimaono. Teva I Uta, the municipality that Cross represented, gave the Collective permission to divert traffic as they wished. One poster in this protest read "Atimaono is not a playground for libertarians" (Cross, 2018b). Another one read "Atimaono is not Silicon Valley" (Cross, 2018b).

Blue Frontiers tried to decrease the momentum gained by protests and the waves overall. For instance, it directed some online comments to the location studies on the Project's website in French, showing how these analysed four additional beaches besides Atimaono. One news article quoted Blue Frontiers co-founder Collins Chen referring to this: "Collins said four sites were under consideration, but once word spread that Blue Frontiers had settled on Atimaono Lagoon, opposition to the Project spread quickly" (Conan, 2018). Around that time, Blue Frontiers also published a new video, showing a new rendering of the Project, which did not have Tahiti in the background (Blue Frontiers, 2018i). However, the Project was already too politicised. A quote by Walby referring to waves and timing explain what happened:

The level of impact will depend on the conjuncture of circumstances, which affects whether it is a mere ripple or a tidal wave of tremendous proportions. The effect of the wave will be significantly affected by the nature of the local circumstances with which it interacts...It is the endogeneity, the positive feedback loops, which are crucial to the explanation of the suddenness of waves of social movements and of the rapidity of the generation of their intensity and power.

(Walby, 2003b; 16)

In this case study, the local circumstances that gave the ideal context for such momentum were the presidential elections. These led political actors in the Island to use the Project in ways that could be beneficial for them and detrimental for their opponents. For example, the opposition tied president and candidate Fritch to the project, conveying the message that if Fritch won, the Floating Island would be developed. However, in response, Fritch took the same position as the opposition party.

With the protest and Facebook waves in their peak, President Fritch and his political party officially detracted their support to the Project by completely turning against it on April 13<sup>th</sup> 2018. Despite publicly supporting the Project for more than a year, the Floating Island became the only environmental point of Edouard Fritch four points presidential campaign. The official political party's website, a Facebook post and pamphlets distributed in Tahiti showed the words in French "No to the Floating Island Project" with a big red cross on top of the Project's design (Tapura Huaaitira, 2018a, 2018b; Paruru ia Atimaono, 2018). Figures 3 and 4 show a screenshot and a pamphlet, respectively. This was perhaps the strongest and deepest among the multiple events in the Project's fading, which I summed up on the timeline in Figure 1.

**PROJET D'AVENIR** LE MOUVEMENT ÉVÉNEMENTS ACTUALITÉS

Maintien des  
**CAE**  
SUR  
**3 ANS**  
pour tous ceux qui sont  
sans emploi peu importe  
leur statut social.  
(RST, RNS, Salarié)

Maintien de l'  
**ACT PRIM**  
72 386 F/80h  
152 915 F/169h  
pour les entreprises  
qui embauchent leurs premiers  
employés en **CDI**  
avec le soutien financier du Pays.

Maintien de l'  
**ACT PRO**  
122 332 F/1<sup>er</sup> année  
152 915 F/2<sup>e</sup> année  
avec le soutien du Pays  
pour inciter l'embauche  
en **CDI** avec formation  
en alternance.

Création d'un  
**CONTRAT DE  
REINSERTION  
PRIORITAIRE**  
pour faciliter la réinsertion  
des personnes  
en grande difficulté.

**Pour les SDF**

**CHRS**  
Centre d'Hébergement  
et de Réinsertion sociale

Création, pour l'accueil des SDF  
d'un Centre d'Hébergement  
et de Réinsertion Sociale,  
accompagnée d'un véritable projet  
de réinsertion sociale et professionnelle.

**Pour l'environnement**

**Île Flottante**

**NON AUX ÎLES FLOTTANTES**  
Pour la préservation de nos ressources et  
la protection de nos lagons.

3 RÉACTIONS SUR " NOS ENGAGEMENTS PRIORITAIRES "

Figure 3. No to the Floating Island Project Facebook electoral campaign by the government<sup>66</sup>

<sup>66</sup> . (Tahoera Huiraatira, 2018).



Figure 4. No to the Floating Island flyer by the government<sup>67</sup>

In that way, the Floating Island Project ended up being negatively affected by the same forces that seasteading was trying to break away from: electoral politics.

This event is interesting, insofar SeaZones originate in the idea of a self-organised market of governments on the ocean where individuals choose their governments. However, here, because of a lack of local self-organised community-building processes, Polynesians were the ones who self-organised. Polynesians even appealed to electoral incentives of traditional governance systems that the Project was trying to transcend. This turnaround is in line with Walby's (2003b:16) theory of waves. Walby notes that elite's response towards the waves shapes them. Moreover, groups can use waves to support their own agendas (Walby, 2003b:17). Similarly, foundational seasteading authors, Mutabdzija and Borders (2011b:11),

<sup>67</sup> (Paruru ia Atimaono Facebook, 2018).

wrote years back that the political zeitgeist of each country would constrain the actions of the governments that seasteaders are negotiating with.

But the concept of waves explains even further what happened in this case study. Walby (2003b; 17) recalls that societies build themselves around specific principles through processes of societalisation which shape waves (Walby, 2009; 41). From this perspective, underlining socialisation processes behind the waves could be the struggles against continuous foreign control of French Polynesia, evidenced in the nested structure of its current governance. Another important issue was Mā'ohi's own nation-building process, culturally and ethnically, and how they saw the Project as a neoliberal disruption of it. It might also be important to consider Moberg's viewpoint about governments and creating Special Economic Zones:

We can no longer assume that the SEZ planners are benevolent.<sup>68</sup> Government officials pursue higher salaries, benefits and social status. Democratically elected politicians want public support and votes in the next election. Bureaucrats seek prestigious titles, larger offices, bigger staff, more leisure and the occasional trips to a pleasant resort on behalf of their agency.

(Moberg, 2015b:12).

There are, nonetheless, additional accompanying factors which contributed with momentum to the waves, and which facilitated their propagation. I discuss these additional “ripples” in the next section.

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<sup>68</sup> SEZ is the abbreviation of Special Economic Zone.

## **7.6. Accompanying Ripples**

Five additional ‘ripples’ contributed to adding the momentum of the Waves. These were: poorly researched news pieces about the project, additional videos about it, previous business practices of foreign companies, distrust in the government and distrust towards the project’s representative in French Polynesia. These ripples accentuated locked-in negative perceptions about the project, further challenging its creation. Here I explain each of them.

The first ripple was poorly researched news articles about the project. This ripple was an international phenomenon. From September 2016 to February 2018, over one thousand news articles were written about the Floating Island (see: Universal, 2018). Few of them (Carli, 2016; Chinn, 2017; Gelles, 2017; Marris, 2017; Metcalfe, 2017) were almost entirely accurate or were done after interviewing the first source. From a sample of the Media Coverage Report of Universal Information Services (Blue Frontiers, 2018f) containing hundreds of media outlets written between September 2016 and September 2017, in more than ten languages, the majority of news articles put The Seasteading Institute as the developer of the Project and not Blue Frontiers.

The regurgitated quality of the news is additionally visible in the emphasis given by almost all news outlets to sensationalist aspects of the project, such as critiques to Peter Thiel’s involvement in the Floating Island and the narrative of Silicon Valley millionaires, some of which “just want to see the world burn” (Menegus, 2017), seeking to evade taxes on the ocean. Other news articles resort to dystopic popular culture references of floating communities, such as the film *Waterworld* (Griffiths, 2017; O’Brien, 2018; Miéville, 2007). They also reproduced misunderstandings regarding the project’s goal, focusing on seasteads, not on SeaZones. Some

presented the Floating Island as an attempt to create a micro-nation (Chandler, 2018). This gave waves an unstable environment, making it easier for their interference to gain momentum.

Past business practices of foreign companies in French Polynesia was the second ripple which added to the Waves' momentum. Temaru, leader of the opposition political party, told Blue21 during his visit to the Floating Pavilion that Polynesians feel foreign companies have played them in the past (Blue21, 2017c). This was an opinion several Polynesians voiced to me during my first and second visit to Tahiti when I talked to them at the market. For example, there had been several instances where the government announced large hotel projects that would create new jobs. However, they were never built. Some comments on Facebook allude to this. One user wrote on the Minister's Bouissou's video: "Bla Bla-Bla-bla. Still projects but it's enough... first mahana beach then the Chinese project for Hao and now floating island (FacebookUser30, 2018; my translation). Another user wrote: "Do your floating islands at yours and leave our lagoons in peace!! No trust at all in these projects of these people" (Facebookuser31, 2018; my translation). Critiques were well-founded.

While the Floating Island was waiting for the Assembly to deliver, other large maritime and land infrastructure projects were waiting and others were being discussed. Industrial Chinese fisheries in the Marqueses Archipelago and the old Mahana Beach Resort were among them (Tahiti-Infos, 2018c). The latter already rebranded due to a previous failure in 2014, changing its name to Village Tahitian and was waiting for an answer from the Assembly, at the same time of Blue Frontiers. Village Tahitian was driven by the New Zealand firm with Maori name, Kaitiaki Tagaloa. Village Tahitian was much larger than the development of the

Floating Island. It comprised four hotels and two residential condominiums, for 1.300 habitation spaces (Tahiti-Infos, 2019). The cost was also much higher. Like the Floating Island, Village Tahitian would have a land and a marine area. It would have tax exemptions and, as other touristic hotel projects in French Polynesia, it would have subsidies from the government. Village Tahitian was seen as an opportunity to create a Polynesian consortium, between Mā'ohi from French Polynesia and Maori from New Zealand, said the Project leader (la1ere, 2019). With this in mind, in 2018, after the presidential elections, these two neighbours with the same cultural roots, the New Zealand company and the French Polynesian government, signed an agreement. With a Memorandum of Understanding signed, the New Zealand company promised to create 4.500 direct jobs.

However, in 2019, the Project was cancelled after the company did not meet expected deadlines and did not raise funds to build it (RNZ, 2019). Polynesians had already been disappointed by the Tahitian Village. Four years earlier, when the Mahana Beach rebranded, it was because it was forced to down-size. This is an example of another story that illustrates how past events have led to Polynesians distrusting large infrastructure projects by foreign companies — even those which are culturally closer to them than Blue Frontiers.

The existence of corrupt elected governments is the next ripple contributing to the waves' momentum. Since elections became possible in French Polynesia, the government has been accused of being corrupt. In French Polynesia, most presidents and politicians have been accused of corruption, with many been investigated or sanctioned. Besides being corrupt, today, many Polynesians distrust the government because of its authoritarian nature (Al Wardi, 2009). Most importantly, power in the collectivity has been in the same hands since 1984. The



presidency has been switched among the same four men. Gaston Flosse has been 6 times president; Oscar Temaru, 5; Gaston Tong Sang, 3; and Edouard Fritch, 2.

Despite repeating governments, politics in French Polynesia is highly unstable and suffers from what Al Wardi (2009:87) calls ideological political nomadism. That is, politicians, migrate from one political party to the other, depending on what is more convenient. Al Wardi (2009) takes the argument further tagging politics in the Collectivity's islands as clientelist. The author states that French Polynesia's politicians are prone to change their opinion about topics based on their voters' pressures. Al Wardi adds that this happens because politicians in French Polynesia know that sentiments, instead of 'rationality', are the main driver of most Mā'ohi when voting. Al Wardi writes that Mā'ohi are known as one of the most sentimental cultures in the world. On top of this, French Polynesia adopted France's tradition of strikes and protests. Therefore, despite the cloud of corruption and clientelism, protesters are lead to think that change is possible. This intensifies distrust towards a government that Mā'ohi already feel does not represent them. All this added reasons to why the government withdrew its support to the Floating Island after initial support.

Besides the previous reasons, the relatively small size and population of Tahiti makes people's opinions influence the government more directly. Hence why during the visit of Temaru, leader of the opposition, to Rotterdam, he expressed to Blue21 that for the Floating Island Project to be successful, it needed the support of the Polynesians, more than the support of the government (Blue21, 2017c).<sup>69</sup> The words of another ex-president compliment Temaru's statement. 6 times

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<sup>69</sup> The original text in French: Une autre conclusion a été que pour l'avenir du projet, il sera essentiel d'avoir plus que le soutien du gouvernement actuel : en fin de compte, les acteurs les plus importants sont les habitants de la Polynésie française. (Blue21, 2017c).

president Gaston Flosse said that French Polynesia is exactly the opposite of a market economy because leaders give the population exactly what it wants (Al Wardi, 2009: 196). Therefore, if islanders oppose a project, the government will oppose too. Now, the last two last ripples I have here mentioned are intertwined. Distrust in foreign companies accentuates because the government deals with foreign companies and foreign companies need the government's approval.

The fourth ripple which added momentum to the Waves was distrust towards Blue Frontier's representative in Tahiti, Marc Collins Chen. The Memorandum of Understanding (2017) stated that there would be a single point of contact making the liaison between the French Polynesian government and The Seasteading Institute. Here, it was Collins Chen. Collins Chen was a relevant ripple because he embodied several traits which generate distrust in French Polynesia. On one hand, he was a business person, who co-founded Smart Tahiti Networks (Big Think, 2017). This was a telecommunications company in French Polynesia which one month after the peak of the Facebook Wave lost the license to operate. As the official journal of the government published in a ministerial order (Conseil des Ministers, 2018m1), the company Collins Chen co-founded provided no evidence of economic activity since granted the license. Furthermore, the order stated that it did not operate any telecommunications services and that it abandoned the Project that they gave the authorisation for. The order also highlighted the lack of a business plan to match the initial proposal and that the company never reached maturity beyond an initial stage of a prospective analysis. It also stated that there was a pattern by the company to abandon projects since their authorisation. The President, Edouard Fritch, and the Minister of Housing, Jean-Christoff Bouissou, were the people in the government who signed the Ministerial Order. It is not possible to know with the information publicly available the extent of Collins Chen's

involvement in 2018 in the company he founded years earlier. But this serves as an additional example of the pattern that Polynesians are tired of. Companies and Polynesian elites promise, but they do not deliver.

Besides being a business person, Collins Chen served in the government for eight months as Minister of Tourism in 2007. This made him part of another demographic which Polynesians distrust, politicians, and with reason. Collins Chen's link with Blue Frontiers ended in November 2018 after I discovered, while working on this research, that he had created a competing company, Oceanix, while still being part of Blue Frontiers (see: ICRIS, 2018). Moreover, Collins Chen, while still being the local representative of Blue Frontiers in French Polynesia, publicly said in an interview published on November 23<sup>rd</sup> 2018 on China Global Television Network that the first floating city in the world would be built in China (CGTN, 201823n) – not in French Polynesia. This was 5 days after Blue Frontiers wrote a blog about how, despite the problems in Tahiti, there were still conversations with a mayor in the Tuamotu Archipelago (Blue Frontiers, 2018n).

Since Collins Chen was the liaison with French Polynesia, the contrast between Collins Chen's behind the backs announcement and Blue Frontiers social media outlets represented a key moment in the Project's fading because it suggests that this co-founder might have, almost certainly, been aware that the Project was not viable either in other islands of Polynesia, but did not communicate it to the rest of the Project founders outside of Polynesia. Added to this, both of these announcements took place seven months after the president's party released the re-election agenda, which involved hand-given pamphlets and online posts that read "no to the floating island" (see Tapura Huiraaatira, 2018a, 2018b; Paruru ia Atimaono, 2018 and figures 2 and 3). Many people in Tahiti were aware of this, but

outsiders no. This representative, being the only member from French Polynesia and living there, was the person in charge of local affairs and doing the liaison - including sharing the information from what happened in the Island, such as the pamphlet that was circulating. In sum, Blue Frontiers' public facing contrasted with the area Collins Chen was in charge of, dealing with Polynesian affairs.

Cross, the opposition's representative, spoke in some occasions about Collins participation in the Project (Actu.fr, 2018). Once she mentioned that Collins Chen acted in good faith in saying that Atimaono was an area of priority development for the country. However, Cross then clarified that it was perhaps Collin Chen's business partners who were acting in good faith because Collins Chen, who had previously been involved in a legal battle for the largest media group in Tahiti, and accused of title theft by the CEO - although he won the legal battle due to formalities (Tahiti-Infos, 2014b; Tahiti-Infos, 2014a, 2014b) - had said in an internal meeting at Cross' political party, the opposition, but of which he was a member, that the deal was concluded - in quotation marks, she added.

A video in French discussing the project, posted the week prior to Amaru's video, was the fifth ripple which seemed to have helped the waves gain momentum. Uploaded on January 23 to a Switzerland-based Facebook page (Nouvo RTS, 2017j23), the video quickly reached over 245,000 views, 1,500 shares and over 400 reactions. This video said that Silicon Valley millionaires wanted to build floating islands. In a neutral, even supportive manner, it highlighted the environmental sustainability aspect of the Project and its aim to be self-sufficient in food and energy. It also mentioned the project's goal of adapting to sea-level rise, and its purpose of having reduced fiscal policies. However, the video

explained that these advantages were only for millionaires and not for the main demographic that would be affected by sea-level rise before the end of the century.

While it is not possible to state with certainty that this ripple directly influenced the Facebook and Protests Waves,<sup>70</sup> it might have. Not only was this viral video posted around the same time as the Facebook wave began, but it also shared viewpoints mentioned in Amaru's video and Cross' protests. Likewise, many of the last comments by Facebook users which commented on this video seemed to be from French Polynesia, and some comments in Amaru's video seemed to echo this video. For example, one comment reads: "As if it were the Polynesians they were going to save from the disappearance of the islands caused by global warming..." (FacebookUser31, 2018). Another one commented: "How is this project relevant for Polynesians? They are not millionaires" (Nuovo.fr, 2018). Indeed, one of the last comments in the video was made by a profile name corresponding to a small island hostel called Pension Kanahau Tania Amaru. While it was not possible to know if this hostel was connected to Sam Amaru, from the Facebook waves, the timing, comments and last name correlate with him.

### **7.7. Conclusion**

In this chapter, I used Sylvia Walby's use of the concept of Waves to illustrate my argument that the Floating Island Project exhibited three key features of complex governance. The feature I discussed in this case study consisted of being permeated by waves of cross-temporal and cross-spatial events. By narrating how the wave of colonisation interfered with the waves of protests and Facebook, almost two hundred years later, I showed how the Project was pervaded by the

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<sup>70</sup> Facebook no longer has public its API, which before used to allow do data analysis with posts in the platform.

cross-temporal and cross-spatial nature of waves. I used this concept to explain the fading of the Floating Island. I complimented the chapter with additional phenomena which imprinted momentum to the Waves. Many of these related to trust in stakeholders. I also highlighted the importance of timing.

Indeed, some waves I described here peaked right before the French Polynesian presidential elections of 2018. Their momentum reinforced negative views about a project which was seen as a foreign enclave, reminding Polynesians of the negative legacy of colonisation. The interaction among the three waves of this chapter (colonisation, Facebook and protests) illustrated the networked, cross-temporal and cross-spatial nature of rightly timed processes in complex systems. I showed this cross-spatiality of waves by looking at the waves' mutual shaping, online-offline. More precisely, I explained how, when the digital space of Facebook met the beach and streets where protests took place, waves peaked. In the end, the Project faded.

In the next chapter, I put the findings of the empirical chapters into context. I discuss the implications of complex governance on projects like this one that are ideologically-driven. I discuss the possibilities, limitations and challenges of setting them up and I present five best practices derived from the research.

## PART III. DISCUSSION AND CONCLUSION

## CHAPTER 8. CONCLUSION

### *8.1. Introduction*

The goal of this thesis was to understand key issues around trying to set up SeaZones using complexity theory. My goal was to find out in what ways might a complex systems perspective contribute to understanding the governance, creation and fading of the Floating Island Project in French Polynesia. I additionally sought to explore ways in which complex systems theory might be used as lenses to understanding special jurisdictions, with legal, digital and spatial extraterritorialities nested or under the umbrella of nation-states. For that, I specifically looked at several aspects related to the Floating Island Project, such as its regulatory framework, stakeholders and its slow ‘fading’.

The specific way I approached the case study was by looking at the governance, creation and ultimate demise of the Floating Island Project through three features of complex governance: nested institutions, multiple levels of stakeholders, and waves of cross-temporal events. Thus, the argument that ran throughout the thesis was that the Floating Island Project exhibited three key features of complex governance: first, it was structured as a nested system; Second, it concerned stakeholders in multiple levels, including local and global. Third, it was pervaded by waves of cross-temporal and cross-spatial events. Through the use of these features, I identified various legal, institutional, political, social, cultural economic, historic and environmental issues that are encountered when trying to set up a new form of governance and a floating island.

In the thesis’s introductory chapter, I introduced the research questions, goals and objectives. I presented the research problem, consisting of understanding the



governance in the Floating Island using features of complex governance systems, claiming that political science and governance have not yet embraced lessons from complexity theory. My analysis of the SeaZone was my way to expand the field of complex governance, a subfield within complexity and political science that studies governance from the lenses of complex systems theory. In that chapter, I also presented the scope and limitations of the research and outlined the chapters.

Chapter Two consisted of a literature review of complex governance and a historical and conceptual overview where SeaZones originated. In the chapter, I described complex systems, complexity's origin as a field, and I briefly introduced features of complex systems relevant for the thesis, namely nestedness, multiple levels of stakeholders and waves. I additionally explained the complex governance field and the concept of complex governance, as seen in the literature and as employed in the empirical chapters. I pointed out that there is a void in the field when discussing special jurisdictions and that SeaZones have never been explored from a complex systems perspective. I then traced back the conceptual history of the SeaZones. This form of governance is new and, therefore, it required its own explication. By providing the reader with a better understanding of the ideas where the Project originated, I was able to explain the form of governance of the Floating Island.

For instance, I explained how the floating Island Project in French Polynesia is part of a subset of Special Economic Zones and Startup Societies that emerged from anarcho-capitalism (Friedman, 1989). Unlike other zones, their goal is not so much economic growth but economic and political 'freedom' (Friedman, 2002). I additionally specified how the Project's form of governance, a SeaZone, would have a combination of emerging and alternative forms of governance. This

combination sought to decentralise governance from nation-states. The Project expected to achieve this by placing an artificial island in the ocean of French Polynesia, giving it special regulations and governing it with a cryptographic token. Thus, I spelled out how the thesis engaged with the conceptual problem of using complexity theory to understand SeaZone governance and issues around setting one up.

In Chapter Three, I briefly introduced the case study of the Floating Island Project in French Polynesia. I narrated its origin in the signature of a Memorandum of Understanding between The Seasteading Institute and the French Polynesian government. I presented the vision shared in the Project's inaugural conference, and described key aspects of it, such as its sustainability vision and cultural inspiration. I additionally presented the Polynesian government's motivations for signing the Memorandum of Understanding, such as sea-level rise concerns for atoll islands in the Pacific. I briefly outlined the main developments in the Project's fading, including Polynesians' opposition towards a foreign enclave.

In Chapter Four, I described the key aspects of the research design. I detailed how the use of participatory observation and document analysis allowed me to address my research questions and explore complex governance in the thesis. However, I likewise, discussed the advantages and challenges of the research methods, and reflected on ethical issues arising from my two hats as a participant-observer and from having signed a non-disclosure agreement to conduct the research. I also discussed strategies I took to overcome these limitations.

In Chapter Five, I used the concept of nestedness to understand the institutional structure and regulatory framework of the Floating Island Project. I did this by

showing how the regulatory framework of the SeaZone would be structured as a nested system. This concept enabled me to grasp how the Project would be situated within the municipality of Teva I Uta, which, in turn, is framed by French Polynesia. Through the historical exposition of French Polynesia's colonisation, I revealed why this 'overseas collectivity' is institutionally nested within France. I also explained the project's nestedness via the strategy by The Seasteading Institute to situate itself within a state. Moreover, I presented how additional supranational institutions, such as the European Union and the United Nations, would also frame the Project, by virtue of France being part of the European Union and by having ratified some United Nations treaties. Besides these formal government stakeholders, I analysed how Blue Frontiers introduced other government stakeholders into the Project's governance structure, by the Project's observance of international cryptocurrency regulations. These included the United States and China. I additionally discussed some implications of dealing with nested, complex governance systems, such as the presence of tangled regulations and ambiguous jurisdictions.

The empirical observations about ambiguous regulations and 'tangledness' were consistent with how the literature on complex governance describes the challenges of complex governance systems. The chapter closed with a critique of the limitations of strategies targeting only formal government stakeholders. Understanding this nested structure, comprising institutions within institutions, enabled me to see the existence of ambiguous jurisdictions among France and French Polynesia and tangled regulations that the Project would have to 'navigate' and 'untangle' to create the regulations and exemptions it sought for its SeaZone. With this exploration of nestedness, the case study revealed that special

jurisdictions, such as SeaZones, are as autonomous as the institutions in the nested structure allow them to be.

Chapter Six focused on the governance and marketing strategy of the Floating Island. In this chapter, I explored another feature of complex governance, namely the existence of multiple levels of stakeholders, including local and global. Thus, it centred its attention on other set of project stakeholders, non-government stakeholders. My aim in this chapter was to show that the Project concerned local both, especially locals. I claimed that the Project concerned locals by virtue of its proximity to the Floating Island and it concerned global stakeholders by incorporating Varyon investors. Through evidence of language in promotional materials and social media channels, and superficial use of a sea-level rise narrative, the research found that the Project focused too much on international followers at the cost of locals, since it did not seek long-term involvement nor public local grassroots support. To highlight problems with this, I used key themes in Elinor Ostrom's work, who is recognised for her contributions to successful governance of socioecological systems, and more precisely, commons, such as oceans. I further presented missed opportunities to involve locals in the Project's governance based on what would be hybrid property regimes in the Floating Island Project and, most importantly, because resources in the Project's maritime area, such as water, are transboundary. I used this idea to discuss missed opportunities for the Project to involve local fishermen and fisherwomen, for instance, in the planning of its potential utilities and infrastructure board. I additionally used examples related to the Project's cryptocurrency, Varyon, social media channels and language of the marketing and purchasing document to show how the Project targeted global stakeholders.

In Chapter Seven, I demonstrated how the combination of various events contributed to the demise of the Floating Island, which I referred to as 'fading'. I used the term 'fading' instead of ended or failed to convey the idea that the Project had a slow death and that it never officially announced its cancellation. I employed Sylvia Walby's concept of waves to show how waves of cross-temporal and cross-spatial events pervaded the Floating Island. Despite its strength, the concept of waves is not mainstream in complexity theory, nor complex governance. I employed this concept because of its power to explain how cross-temporal events that can affect complex systems and, most importantly, complex governance systems. The three waves I analysed were: Polynesia's colonisation, a series of Facebooks videos, posts and comments about the Floating Island, and protests by the opposition and a local collective of fishers at the Assembly, beach and streets. I presented how each of these three waves interacted with and reinforced each other. The chapter provided evidence for the implications of not engaging better, in complex governance systems, with different levels of nestedness and multiple stakeholders, in particular with locals, given the history-dependent nature of complex systems.

Indeed, in the chapter, I demonstrated how, because of the cross-temporal and networked nature of waves, events which begun two hundred years ago (the colonisation of French Polynesia) met with contemporary events (Facebook posts and protests), and gained enough momentum to generate social movements against the Project. Through 'waves', I explained how Polynesians related the Floating Island to French colonisation, associating the Project to an attempted foreign enclave. Since French Polynesia had suffered negative effects from French colonisation, such as being used as a nuclear tests site, foreign enclaves, as in many places around the world, were a sensitive topic. I showed the connection

between each of these waves by presenting evidence for how Polynesians brought out the wave of colonisation as a reason for protesting, and stated they did not want repetition of the past. I narrated how, as a result, in the first and second quarters of 2018, the Floating Island Project fell prey to critiques and online and offline protests by locals amid Polynesia's presidential election climate. These socio-political movements managed to influence engines of traditional governance systems, such as winning elections, and the impact it had on creating a new form of complex governance. With this, I additionally highlighted the importance of timing, suggesting that the 2018 presidential elections contributed to, but was not responsible for, this case's unfolding.

I accompanied the description of the waves with four additional 'ripples' that gave the right conditions for the Project's fading. One of these ripples consisted of news articles that wrote negatively about the Project and its conceptual and political inspiration, seasteads. These articles highlighted sensationalistic aspects relating the Floating Island Project. For example, they repeated the narrative that Silicon Valley millionaires want to set up micronations in international waters to escape taxes. Another ripple that, I found out, contributed to the Project's fading was that several projects in French Polynesia have been cancelled after their leaders promised they will create new jobs. This has led Polynesians to distrust foreign companies. These and other ripples and the waves reflected four ways in which Walby characterises waves. These include the ideas that they are networked with other waves and are cross-temporal. Indeed, it was this networked and cross-temporality nature of waves which enabled that the colonisation of Polynesia combined with Facebook posts and protests, almost two hundred years later, and ended the Project.

This chapter wraps up the thesis. It first reflects on the implications of a complex governance framework on ideologically-motivated projects. It then discusses the possibilities, limitations and challenges for setting up special jurisdictions with alternative forms of governance and extraterritorialities. It then extracts five best practices from the research, such as projects being locally-led and involving and planning for multiple stakeholders in several levels, especially the local one. It then outlines the contributions and concludes with key remarks and future work.

## ***8.2. Implications of Complex Governance on Setting Up Projects Ideologically-Motivated***

This case study consisted of a private special jurisdiction that required the approval of a host nation to locate on a common-pool resource. The Project would navigate nestedness and untangle regulations to simplify existing regulatory frameworks. For the Project's drivers, the purpose of doing this was being able to implement forms of governance which one day could lead to seasteading and forms of governance alternative to nation-states, such as those sought in anarcho-capitalism. However, the empirical observations of this case study showed the limitations of trying to set up complex governance systems that are too tied to particular political economies. This observation is theoretically relevant to thinking about complex governance, and I want to push it forward in this section.

The limitations of thinking complex governance from an ideological standpoint becomes evident when realising that seemingly distant theories of governance, namely Ostrom and the Friedmans, meet in the Floating Island. Here, while the Floating Island Project originated in seasteading and anarcho-capitalism, its governance had elements of state, market and collective governance. This is partly seen in its nested framework. The Project had elements of state governance

because of the regulatory framework required the approval of the French Polynesian government. It would have elements of market governance because it would be governed via a private entity. And it would have elements of collective governance because of the existence of hybrid property and ownership regimes.

I acknowledge that this idea might be controversial. It may even go against what most people believe about seasteading, SeaZones, anarcho-capitalism and Ostrom, supporters and detractors. I am aware that it is not common to stress that a project with origins in anarcho-capitalism, a form of governance which tends to be associated to free-market libertarianism, shares elements with Ostrom; an author sometimes related to left-wing libertarian ideas (Wall, 2014), socialism, and even anarcho-communism (Carson, 2013). However, part of Ostrom's work was precisely an attempt to move away from theoretical dichotomies in complex socioecological systems. After all, she recognised a third way to govern natural resources besides the market and the state. In my recognition that elements of these distinct forms of governance can coexist in one project which also has anarchic origin, while not being any of them entirely, I am acknowledging the existence of a fourth, a fifth, if you wish, a polycentric, complex governance system. And While the SeaZone was not exactly a common property arrangement such as those described in Ostrom's work, it did try to set up rules for managing common resources.

The overlapping of market, state and collective governance in the SeaZone was not a theoretical anomaly. Instead, it can be understood as a derivation of the Project's complexity. The coexistence is interesting, insofar it helps ground forms of governance that, like seasteading, have been tagged as being too idealistic. What is most importantly, dealing with this coexistence requires being



practical, rather than dogmatic. A practical attempt for creating SeaZones begins by asking who is already living near the existing location. It is the responsible thing to do, calling to Puig de la Bellacasa's approach to making visible neglected stakeholders. And then it moves to traditional floating real-estate projects. This is a serious idea to consider for seasteading supporters fixed on the idea that seasteading starts, not with floating real estate and more zones on land, but with politically autonomous floating communities in territorial or international waters. Disregarding the regulatory aspect of floating communities and seeking traditional floating real estate projects could be a smoother step towards creating SeaZones. A more likely alternative is beginning with a port. Most ports already have a maritime area and some form of free trade zone.

What I am trying to argue is the Project should have engaged with the implications of its complex governance and with a territory, instead of acting in ways that made the Project seem a mere step towards anarcho-capitalism. While I do not condemn this political economy, I do recognise that the execution of the Project fell short in dealing with the Project's extraterritorialities. Allow me to explain:

In addition to being legally and spatially nested, this aquatic special jurisdiction, in particular, would also have digital extraterritoriality. It would have legal extraterritoriality because their regulations would have been different from the rest of French Polynesia. It would have been a spatial extraterritory because the ocean, its location, is an extraterritorial place – although territorial waters to a much smaller degree than international ones. Likewise, it would have been a digital extraterritory because the SeaZone sought to provide governance via a digital, cryptographic token, Varyon, and digital systems are extraterritorial places too. Despite the possibilities of these extraterritorialities, the research showed the extent to which

traditional governance systems shape the autonomy of extraterritories. Therefore, any discussion that seeks to understand the limitations, possibilities and challenges of creating extraterritorial systems is not complete, for better or worse, without considering the role and prevalence of traditional, legacy, governance systems, such as nation-states and even political parties. It seems, therefore, that the more extraterritorialities a project seeks to have, the more of these traditional governance systems it needs to align to move forward. Doing so is possible and can be done, but it is a rather difficult task to do. It has to be done in the right way since the beginning. By this, I do not attribute the 'fading' of the Floating Island to features of complex governance. Instead, I am saying that, If not engaged in the correct way, *with care*, features can end up becoming challenges. With this, I want to highlight an idea that complexity scientists have been stating for some time: complexity needs to be taken seriously.<sup>71</sup>

Taking complexity seriously seems particularly important for small companies like Blue Frontiers, with little startup capital and limited experience as developers and lobbyists. Unlike governments, the finite financial runway of companies means they

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<sup>71</sup> To mention an additional example of the extent to which complexity pervaded the Project, using two concept of complex systems I did not address on this thesis, uncertainty and path-dependency, the opposition to the Floating Island could be seen as a way for some Polynesians to bifurcate from unequal institutional path-dependencies that they have been locked-in for the past two hundred years. Polynesians trying to break away from path-dependency led to an uncertain status about the Project's future, where the Assembly never pronounced itself about the Project. Thus, there was uncertainty about its status. Likewise, there were mixed views about the Project: favourable and negative ones coming from the government, negative ones coming from the population, and optimistic ones from the local representative. These made it unpredictable to know what was going to happen with the Floating Island. The unpredictability intensified around the presidential elections. These features, uncertainty and unpredictability, are also key features of complex systems and, it seems with this thesis, are important for complex governance too. Institutional path-dependency of traditional governance systems is incredibly strong. So much so that even a thesis like this one, which I thought at first it would be about an emerging/alternative form of governance, unwillingly and to my own surprise as a complexity researcher, who should have expected surprises, ended emphasising how traditional forms of governance are, to a large extent, in control.

often cannot conduct long business developments cycles. Creating grassroots support then becomes a way to balance lack of experience in the field. Now, some companies could choose to try to escape dealing with complexity and taking a post-anarchic route (see: Newman, 2015), acting as if the state did not exist. This would mean simply setting up a floating project anywhere where residents do as they please. Yet, post-anarchism, while it works in contexts like preventing animal abuse, is not a successful route for establishing long-term special jurisdictions, like seasteads.

For example, after my data collection process ended, an ex-Blue Frontiers volunteer and former forum manager of The Seasteading Institute, and his now-wife, Chad Elwatorski and Supranee Thepdet, moved to a floating home in the Contiguous Zone of Thailand for two months, built by their Company Ocean Builders. While the Contiguous Zone is not per se territorial waters, it is not international waters either. Thai jurisdiction still applies for taxes, immigration and other aspects in the contiguous zone. Elwartowski either did not do his research, or if he did, he disregarded it (see Elwatorski, 2019). When asked about what would he do if a Thai gun boat would approach, he said everyone there had military experience. A Thai gunboat, indeed, overtook the floating home. It revoked Elwartowski's visa and considered applying the death penalty or life in prison to the couple on the grounds that they had tried to interfere with Thailand's sovereignty (Sakot, 2019). Of course, the couple had to flee. Ocean Builders announced in December 2019 that they are now working on floating homes called 'seapods' in Panama (Ocean Builders, 2019).

In a nutshell, when the governance framework is complex, it is valuable to work side-by-side with existing institutions and states. While governments frame and

limit projects, they also enable them. And while seeking autonomy in a host-nation when being a private entity is not trivial (Moberg, 2015), to make things simpler, it might be better to first seek only one or two extraterritorialities at the same time. Three, as in 1) a aquatic floating platform, 2) that functions on a special economic zone, 3) governed on the blockchain, might be too disruptive and difficult to explain.

A better understanding of the tensions among various extraterritorial systems is crucial to comprehend extraterritoriality, one of this century's main governance trends. Some of the Project's tensions in this regard were visible, for instance, when Facebook's digital extraterritoriality affected the legal and spatial extraterritoriality the Project desired. It can also be seen in how the oceanic spatial extraterritoriality desired by the Floating Island was blocked by dynamics mediated on the internet and on land. Likewise, land-based governance was affected and often mediated by digital systems.

To navigate the tension of extraterritoriality, there are different views around how desirable it is for Zones to be close or far to the host nations. For Moberg (2015) and Strong and Himber (2009), the success of special Zones lies in this separation with the host nation. For institutions like the World Bank, ideally, there would be more backwards and forward linkages between the enclave and the host nation. However, both views about "separation" agree on the relevance of legal autonomy and spatial closeness. Going back to nestedness and the idea that the more nested a system is, the more projects must navigate regulations and politics, I want to point out that the extraterritoriality tension brings out a 'paradox'. This paradox relates to autonomy and navigating nestedness. Paradoxically, navigating nestedness needs to be done in the search for more autonomy and to improve governance and overcome bureaucracy. However, tangled networks of regulations

shape the limits of extraterritorial systems' achievable autonomy. Consequently, the extent of autonomy in the extraterritorial systems like SeaZones depends upon how much the 'simplification' of complex governance results in frameworks that previous to such navigation have allowed for legal, digital and spatial extraterritorialities to be possible. And this entails a process of navigation in the quest for autonomy in the first place.

Part of today's extraterritoriality comes from the networks creating them. However, this is ultimately explained by what underlies this is complexity, local processes: local interactions, self-organised behaviours, more diversity, nested hierarchies, and, ultimately, nonlinearity. And this is one important reason why one of this thesis' take-home messages is that special jurisdictions being set up are better led by people of the Project's location, even when funding is international. Locals know the culture, the people, the past, and, most importantly, they understand if a project will be welcomed or not. They also have more interest in making a project respectful, although this is not always the case.

Tension aside, it cannot or should not be underestimated that localized special jurisdictions with extraterritoriality carry a powerful momentum. They are 'trendy'. This is partly because of the advocacy of important non-profits in the space but also because they feed on other important contemporary tendencies. Kantor and Savitch (2002, 2010) name some examples: decentralising economies, interconnected cities, globalisation, free markets, private enterprises and reduced government intervention. Innovations with digital extraterritoriality expand what is possible with these already complex forms of governance. As a result, we are subsumed in more complex, networked world, economically, socially, and culturally. This, in turn, leads private actors and governments to invest in

infrastructure at unprecedented rates, leading to what authors such as Khanna (2016) call 'the connectivity revolution'. This is when the world functions through the connectivity of infrastructure networks, as opposed to political borders. Urry engages with a related topic of today's connected world, in his work of offshoring (see Urry, 2014) too, although a bit more critically. Like Khana, Urry and myself many, indeed, argue that the twenty-first century world in the is becoming more complex. Gershenson (2007:2), for instance, writes: "Every year there are more people, more computers, more devices, more cars, more medicines, more regulations, more problems".

Localisation and its relation to extraterritoriality is a topic which deserves serious consideration when dealing with increasingly complex governance. This is because there seems to be a positive feedback loop between extraterritoriality and features of complex governance. Extraterritorialities seem to be local solutions to increased complexity. This is because, despite trying to simplify local regulations, special jurisdictions create more global links, making societies systemically more complex. Likewise, digital extraterritoriality facilitates communication with less mediation. This creates more networks on a global scale. Some ways to deal with increased complexity is through more extraterritorialities. Thriving special jurisdictions push countries to create more of them. Similarly, spatial extraterritoriality propels legal and digital extraterritoriality by giving them spaces for them to exist and be developed. In this way, extraterritorial systems created for making jurisdictions, governments, financial transactions and human interactions more 'simple' also make the world systematically more complex. Exploring or identifying more of these tensions can help further understand the possibilities, limitations and challenges of creating special jurisdictions nested within states.

The interplays among multiple levels, structures, systems, networks and dynamics of extraterritorial systems bring out more features of complex systems. Hence, increasing legal, digital and spatial extraterritorialities requires forms of governance that are able to deal with these 'complexifications'. Indeed, one can argue that many special Zones today skilfully navigate complexity by creating localised regulations suited to specific, small territories. As a result, they are able to compete in global markets. According to Sassen (2000b), smaller jurisdictions already reshape the frontier between the national and the global.

Today's globalisation induced transformation of nation-states, and their mutual shaping, has been a recurrent topic for contemporary thinkers, such as Appadurai (1991, 1993, 1995), Sassen (1996, 2000) and McGrew (2014). Several authors have, indeed, discussed the idea that smaller jurisdictions will replace nation-states as economic, political and financial epicentres (see: Khanna, 2010, 2016; Bell, 2017; Frazier, 2018; Sassen, 2001; Appadurai, 1990, 1991, 1993). Among these jurisdictions we find cities (McKinsey, 2011), global cities (Sassen, 2000:151), clusters of cities 'megapolis' (Yu-ping and Heligman, 1994) and global city-regions (Vogel et al., 2010). Even organisations such as United Cities and Local Governments (n.d.) relate to this idea. In the words of Potts & McDonald (2013:1) when contemporary sociotechnical systems allow citizens to choose public goods club, regardless of their territorial location, this undermines "the exclusive role of the territorial nation-state". It seems that, as this happens, we are at the edge of a new governance era. Cities, global cities (Sassen, 1994), Zones and megalopolies now shape the global economy, many with less large state mediation. Complex governance presents itself as a handy tool to understand this important phenomenon today, but it requires to embrace complexity, as opposed to

simplifying it under particular political economies or ideologies. Embracing and dealing with complexity begins by grasping what happens at the local level.

### ***8.3. Analysis and Best Practices***

This thesis helped to visualise tensions that emerge when trying to set up a new form of governance, namely a SeaZone, on a floating island. Here I present some best practices, which are applicable to similar, yet different projects, including Special Economic Zones in land, projects with alternative governance, digital, spatial or legal extraterritorialities, and next generation of governance forms. Even though today most still minimise or ignore their past, present and future impact, I am particularly interested in new forms of governance, whereas in floating districts, cities or in land, because what is behind them is the ‘complexification’ of rules (legal extraterritoriality), interactions, territories (digital extraterritoriality), structures and urban landscapes (spatial extraterritoriality).

The following best practices can guide the work of projects that have either a floating architecture component, a special regulations component and other types of extraterritorialities. With this, my hope is that this research can help future SeaZone, special jurisdictions and floating cities projects avoid repeating the same mistakes as the Floating Island. More specifically, this thesis can also potentially serve individuals, private companies, practitioners, consultants, investors, public servants, non-governmental organisation members and local partners involved in attempts to establish projects with similar characteristics. Most importantly, I these best practices can also help local communities identify projects which will not be convenient for them from an early stage.



That said, these best practices are written firstly with project practitioners and developers in mind for two main reasons. First, this section and the best practices are my own way to reflect on my future work after the PhD. I will continue to work in this field, although from a business development angle. Therefore, I expect that this section will help project developers, consultants, and practitioners in the industry, including myself, craft projects that align with and that are planned for the community they are being built in or invited into. I would have liked to read these recommendations four years prior to being hired as a contractor of the Floating Island. The second reason why these best practices have practitioners in mind is that, in the last twenty years, private and non-state companies have set up the majority of new special jurisdictions (FIAS, 2008). The most interesting special jurisdiction projects today, those that go beyond manufacturing and focus on services, also tend to be private. It is in these privately led projects where consultants, practitioners and non-governmental organisations have more say, influence and manoeuvrability. These projects are also more likely to adopt best practices in the interest of a project's economic prosperity.

It is important to note that the language used in this section and last chapters does not exclude projects that go to a location where they are being invited to, like the Floating Island. This is because many of the newest, most innovative special jurisdictions today are being created in Latin America, Africa and the Middle East by non-local companies working together or through permits of local governments. The interests of these two not always fit the views of the local population. However, it is impossible to make a respectful and thriving project if it does not go beyond the government and developers' interests to include informal stakeholders (human and non-human) in their plans. It is necessary and beneficial to do so. It can also be profitable. Ostrom was right when she wrote that: "If we do not find the means

to enhance the capabilities of local, indigenous institutions to govern and manage smaller common-pool resources effectively, the absence of such institutions in the twenty-first century will lead to an even greater acceleration of the destruction of valuable natural resources (Ostrom, 1994:2).”

Now, unlike previous seasteading examples, the Floating Island Project attempted a ‘Trojan Horse method’. It was a ‘back door strategy’ for floating communities to gain some autonomy away and within a nation-state. Other seasteading-like attempts, such as Operation Atlantis, New Utopia or Ocean Builders, failed because they were explicitly anarchist or micronations. In contrast, having a special framework seemed a more practical path. While nothing ensures success when setting up a special jurisdiction, on the water or on land, a better understanding of the institutions framing the projects, their stakeholders and sensitive events in the potential location’s past can smoothen their path from design to implementation. Most importantly, doing so makes it more likely that the project matches the vision and expectations of both, the local community and partners with respect to a new project. This is an important way to mobilise care towards stakeholders that are usually neglected when foreign projects go to new locations. Framed by this approach to project-planning, one that has local stakeholders’ expectations at the centre, I move on to presents some best practices derived from the research.

**Best Practice No.1. Special jurisdictions should emphasize on involving locals and crafting a project for them. In cases where the projects are not locally led, they should have significant local participation, especially in managerial roles.**

In this thesis, Ostrom’s work was used to criticize the little emphasis placed by the Floating Island on activities that involved local stakeholders. In more than one way,

the way the project was conceived in, executed in, reproduced in and embodied a latent orientalism. It involved a western power bringing knowledge that was believed to not be currently found in French Polynesia. Polynesia was portrayed as not possessing certain characteristics normally found in the origin countries of many seasteaders. In this way, the Project embodied several of the critiques to orientalism that have been pointed out by authors such as Praveen, based on the work of Said and Spivak: “the west is considered a place of scientific progress and development, while the orient was deemed remote, unchanging, primitive and backward” (Praveen, 2016: 48). The project, indeed, did not do a good job in understanding and portraying an idea that Polynesia more fairly. It used an all-encompassing characterisation of the location. It also did not dig deep to discover whether the specific knowledge the project wished to bring to French Polynesia was even desired by its local population. In a way, the Floating Island Project’s targeting of global stakeholders, despite concerning local and global ones, can be seen as the Project remaining faithful to its origins in seasteading. As shown in earlier chapters, some foundational seasteading publications show poor language choice when they refer to location searches in countries with developing economies. In various texts, the language in the literature preceding SeaZones portrayed a superiority mindset towards the global south and a lack of acknowledgement to the fact that ‘third world countries’ are inhabited.

While Blue Frontiers did not use the same terminology of some foundational seasteading texts, the Project’s absence of strategies aimed at involving locals followed the entitlement of some foundational seasteading authors that view territorial waters of third world countries as unclaimed. This is backed by how its marketing focused on governance and appealed to a global audience with libertarian messages, such as decentralising governance, while seeking a location

in a place interested in sea-level rise. In doing so, the Floating Island Project erred by portraying itself as a step before seasteading's anarcho-capitalism, focusing too much on the market of governance and not on the governance that would help the Project facilitate a popularizing kind of real estate that could be beneficial to both sides. In a nutshell, the Project was planned in such way that contradicted was trying to set up: a SeaZone, a form of governance *nested within* French Polynesia, a place where local stakeholders have nature and the ocean attached to their identities, and who also vote.

My use of Ostrom was complemented by the concept of Waves. Waves were key to show the relevance of local, informal stakeholders in the creation of the Floating Island. Waves also showed the extent to which the location's and local stakeholders' past should have been considered in the Project's planning. The empirical chapters demonstrated how the actions of informal, local stakeholders of the Floating Island overshadowed the formal legal strategy of submitting studies to the government for the Assembly to approve them. This showed the importance of local stakeholders, even when they are not formally considered as part of a zone project. They still can have more incidence than formal and/or international ones, even when a project targets them.

Similarly, the local culture needs to be more than a source for architectural inspiration. Locals must either drive or be part of decision-making processes and governance of these zone projects. If zone projects with an active global component do not fulfil this, they will almost certainly face obstacles. It is difficult to quantify a specific proportion of local versus international participants of a floating zone or any project similar to this one. However, it should be higher than a 25% minority and 1/5th of the managerial roles. That said, if local partners are

not trusted by the population, it will be very difficult for a zone with international funding or participation to grow local trust, as it happened with the Floating Island.

Several authors in the literature focused on the creation of special jurisdictions have addressed the topic of local participation before. Frazier and McKinney (2019b), for instance, argue that the ultimate test for whether a zone is an enclave is if locals want it, benefit from it (especially economically) and if there are representatives of the local community with rule-making power in projects. Frazier and McKinney add that, especially when projects are foreign, they should ask locals for their inputs in every stage of the process. Traditional methods, such as conducting surveys, reveal if a community is open to a project and how they best would like to participate in it. From the perspective of a developer, these methods can also help prevent wasting energy and resources on a site which will end up being not viable. Moberg (2015) adds additional reasons for prioritizing local participation. She explains that involving the local community in a zone's governance is also a way to keep governments in check. And if local partners are trustworthy, it also contributes to promoting transparency.

**Best Practice No. 2. Special jurisdictions should conduct activities that generate honest grassroots support in the local community.**

Besides having local stakeholders involved in a project's governance and activities, zones should also try to generate honest, public support in the local community. Grassroots support should complement legal studies and marketing strategies. These matter a lot, especially when projects seek to create extraterritoriality. Grassroots support happens by engaging with non-elite members of the local community. While media, press and a good architectural render take a project far,

as was the case with other floating city projects which emerged afterwards, such as Oceanix's, grassroots support can take a project much farther when seeking for a location. Grassroots are crucial for projects seeking to locate on the commons, including lagoons. This is because having grassroots support also facilitates the design and implementation of programs which can give back to the community. Having honest grassroots makes it easier to understand potential synergies between a project and a location.

One of the most noteworthy things zone projects can do to generate honest grassroots is, at first, to simply listen to specific local needs.<sup>72</sup> This provides insights for designing programs that directly benefit the location and to find middle points, if it is possible, among all participants. Even, or especially, market-driven projects, should not underestimate the implications of Ostrom's work.

There are additional steps zone projects can take. One way that could even help safeguard against politician's wills turning against projects is to involve several offices of the government. That way, retracting support for the project unexpectedly could be a bit harder. Moberg (2015) explains why doing this might work: "Politicians enjoy public support and thus electoral votes if they can take credit for good SEZ policies. If the link between politics and economic outcomes is clear, they have a stake in designing good policies, including growth promoting SEZs" (Moberg, 2015b:15). Moberg adds: "When voters in a democratic system realise what benefits SEZs can bring, they will demand more say about SEZ policies and keep the spotlight on policy-makers working on SEZ policies (Moberg, 2015b:17)".

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<sup>72</sup> Listening can also be hearing about local dynamics, including the opinions that locals have about politicians and representatives of projects in a location.

Having multiple parties involved in and leading a project also opens decision-making to more participants and distributes the image and responsibility of a project's team. Doing so makes it less likely that one party or individual stains the reputation of a project. However, it can also increase the chances. Frazier and McKinney (2018; 2019) suggest several best practices for zone and Startup Societies creation along these lines. One of them is to build a consortium. In the Floating Island, while Blue Frontiers had multiple strategic partnerships (Blue Frontiers, ND), with the exception of Blue21, it was not clear what role of most of them had - if any - other than sharing logos on websites. This practice was common among blockchain companies during the cryptocurrency bubble of 2018. But partnerships should be more than that. Their work together should be oriented towards the construction of projects and/or a unified project goal that is beneficial for all involved, but especially to locals who are not part of the project.

**Best Practice No. 3: Projects should know they are dealing with complex governance systems, composed by multiple levels of stakeholders, a nested structure and history-dependent systems**

This case study showed the relationship between nested governance systems and multiple levels of stakeholders. The empirical chapters showed how the Floating Island focused on the mezzo level in the nested governance structure, the state. Locally, this meant interacting only with formal government stakeholders instead of engaging more with those informal, yet key, stakeholders of the community (see Actu.fr, 2018). The Waves that took place during the Project's fading showed how important it is to engage with multiple stakeholders, within and outside nested governance systems, when creating special jurisdictions. With this, the thesis's findings back several important notions about complex systems, including ideas such as those mentioned by Solé et al. (2013), relating to how poor initial conditions

make it less efficient to navigate in the 'possibilities landscape' of a system. In this case, while it is not possible to predict how the project would have unfolded had it interacted more with multiple levels of stakeholders, not doing it negatively impacted the Floating Island.

Being very aware of where a project starts is important, considering, as the thesis showed, the extent to complex governance systems are history-dependent. Here, some starting points were French Polynesia's lack of autonomy derived from colonisation, the literature preceding SeaZones which exalted colonising marine 'tabula rasas', and international critiques to seasteading, such as the "millionaires wanting to evade taxes on an island". All these set unfavourable initial conditions for the project.

The importance of the initial conditions is related to the irreversibility of complex systems. Because complex governance systems are time-coupled, the starting point matters. Indeed, the initial conditions are one of the most influential factors in the development of Zone and other types of alternative governance and extraterritorial systems. In a way, one way complexity best serves this study by helping to reveal the obvious: history matters. It matters so much that one reading of this research could be, as it relates to complexity, that path-dependency can lead to unpredictable outcomes and manifest itself in uncertainty, regardless of whether people are trying to break path-dependencies or to remain in them.

In this case, institutional path-dependency started with the colonisation of French Polynesia. Clientelism became ingrained in French Polynesia's institutions and its government. This was followed by detrimental practices towards the environment and the opportunism of foreign governments and companies in Polynesia which



go to French Polynesia for its resources, something that many Polynesians, for obvious reasons, do not approve. A path of economic inequality then became linked to nationality and identity. Understandably, this has led Polynesians to be antagonistic towards the repetition of colonial and neo-colonial practices where foreigners determine the future of their lagoons. Hence why Polynesians protested against the Floating Island Project to avoid repeating this path to expatriates holding higher socioeconomic status in their islands. This contributed to what for many was the unexpected collapse of the Floating Island, given the extensive media attention and international relevance it received after the signature of the Memorandum of Understanding. While there was never certainty about the Project, the Floating Island received so much attention that many, including me at the beginning, were assured that it would succeed. However, as Gerrits and Verweij (2018) explain in relation to complex infrastructure projects, things tend not to unfold as planned.

The concept of waves helped me see how trying to break from these institutional path-dependencies played a part in the emergence of self-organised online and offline protests, fundamental to the Floating Island's demise. After all, places have history and societies have memory. While this might seem obvious, the literature from where the Project originates, in particular, the literature of seasteads, presents location searching for floating communities as a matter of finding a third world country willing to host a project.

Thus, the best practice derived from this experience is that special jurisdictions should try to navigate more strategically the implications of dealing with complex governance systems. Instead of meeting with a single level of governance, projects should remember that, in democratic systems like French Polynesia, governments

respond to local concerns. Likewise, in many cases voters are informed by international media systems. This sounds obvious. Yet, it seems that many projects whose mission is to create new forms of governance have overlooked it.

In sum, my recommendation for nested, special jurisdictions that are rooted in the idea of decentralising governance from nation-states, like SeaZones, or those trying to create innovative zones is to be aware that they must operate within the centralised systems they seek to decentralise. The systemic decentralisation of governance requires, for better or worse, centralised systems. Decentralisation can only happen through the systems that initiators attempt to decentralise.

Focusing specifically on Zone projects, floating and not, my previous point means that, for as long as we live in a Westphalian system, the autonomy of private special jurisdictions and of floating real estate projects begins, is bound to, and ends with the complex governance systems that result from them being tied to the nation-state. This is because of how the issue relates to another relevant implication of nestedness today: sovereignty, commonly understood as states' exclusive power over a territory since the Westphalia Treaty in 1648.

Now, the Floating Island Project did not seek a sovereign type of autonomy when establishing the SeaZone. However, sovereignty was important for the case study specifically in three ways: first, the Project would nest in a complex governance structure with multiple sovereign and other less sovereign entities; Second, having the support of a country was The Seasteading Institute's motivation for signing the agreement with the Polynesian government; Third, the Project attempted to gain legitimacy by following foreign sovereign states' cryptocurrency regulations. Likewise, the nesting of the Project within sovereign entities limited the Project also

in three main ways. First, French Polynesia's voters led the government to withdraw support. Second, United states' regulations limited the pool of Varyon buyers. Third, Polynesia's own lack of sovereignty became a key factor in local antagonism towards this foreign Project.

One lesson from this: the implications of having a nested system should never be underestimated. However, it is interesting to note that the same issues motivating and challenging the creation of seasteads, namely elections and sovereignty, can challenge creating special jurisdictions, such as SeaZones. But the nested institutional framework is more than simply a potential limitation for these projects. It is their enabling factor. In the Floating Island, it was the Memorandum with French Polynesia which granted initial legitimacy to the Floating Island as a possible decentralising system. However, it was during the peak of waves and internal processes within Polynesia, the place whose governance Blue Frontiers would to decentralise, that the attempt to create the Floating Island faded away.

To restate this best practice: creating special jurisdictions and other extraterritorial systems, including floating islands, needs to take the implications of complex governance, nested governance systems and multiple levels of stakeholders, and what they care for, into account. Extraterritorial projects, regardless of their specific extraterritoriality should pay close attention to and engage with diverse stakeholders at several levels; formal and informal, government and non-government, local and global, but especially local.

#### **Best Practice no. 4. Splicing levels together and thinking through territory**

Projects nested within nation-states that seek to decentralise governance, like the SeaZone, should seek a 'true' middle ground between existing hierarchical

institutions and the decentralisation of governance they are after. This means recognising the hybrid nature of these systems and using strategies that involve both bottom-up and top-down governance systems. This means dealing with the entire spectrum of governance: hierarchal and heterarchical structures, fixed, adaptive and flexible processes, decentralised, distributed and centralised systems, and also with bottom-up and top-down control, local and global interactions, self-organisation, alternative and traditional governance. Being aware of the complexity of a project's governance and framework can lead to better strategies. Rather than privileging one or other levels, the challenge for future complex governance projects will be to splice the levels together, to find ways of merging more traditional governance (often top-down) systems and new forms of governance. This entails dealing with traditional systems and their issues, such as elections, but without forgetting the more global vision of a project.

The Floating Island Project in particular did not do that. While seeking to distance from traditional modes of governance, it focused too much on project participants who were removed from the Project's possible location and whose concerns were more focused on autonomous governance than environmental issues, the location's concern. In the Floating Island, we can approach this as a question of nestedness and autonomy, a problem of the particular extraterritorialities of the Project.

Given nestedness, the Floating island Project's autonomy to act as a SeaZone would have depended on the extent to which it was allowed to physically (with the floating island) and legally (with the special regulatory framework) nest within Polynesia while not being detached from its legal and physical infrastructure, and the nested institutional framework surrounding it. But it seems from this case study

that, because of nestedness, the more extraterritorial a governance system is, the more institutions it has to 'navigate, the more regulations it must untangle. This adds to the already challenging introduction of a foreign, legal, digital and spatial extraterritory in a place where people manifested to have different concerns from Blue Frontiers and average seastealers. It is almost impossible at this point not to remind readers that even if projects are partly driven by a digital and spatial extraterritorial component and are aware of their international support, territoriality is still important because these extraterritorial projects can only exist in relation to geographical space.

Cases like this one show that the way projects engage with topics such as nationality and territory of origin should be crafted carefully. Practitioners should be aware that, despite globalisation, or because we live in a globalising world, there are underlying power dynamics in almost everything we do, including the messages we send about how we see projects moving forward. This is particularly true for where a location's nationality and culture significantly differ from those of the company leading a project. This takes me to my next point.

### **Best Practice No. 5 Crafting a coherence in message**

In the literature which spurred the Floating Island Project, a key concept is that using water as the territory would lead to bottom-up, better forms of governance. However, in this case study, the plans for the SeaZone did not differ much from top-down, centralised governance, despite the aim of having water as its territory. This happened, among other reasons, because the Project was approached in a very centralised way. Blue Frontiers sought to have a monopoly of the Project and its view on water: its operation, infrastructure, construction and, most importantly, its governance. The emphasis on governance did not match what water signified

for residents of Tahiti. Sea-level rise, which lead to the opportunity in Polynesia, was not a core part of the Project's public-facing vision, outside of Polynesian-focused marketing.

The confusing message was clear. While sea-level rise was present in some of the Project's documents and marketing materials (see Blue Frontiers, n.d.-c; 2018e), an in-depth exploration of these suggested that this concern was more an afterthought arising from conversations with the Polynesian government, rather than an objective core to the project's governance mission. Before the Project faded, scholars such as Ranghanatan (2019) had highlighted this and criticised the Project for its toned-down libertarianism. Ranghanathan (2019) contrasts the "politically neutral" view of the Floating Island with an initial writing on a Seasteading Institute letter for contacting potential host nations. She contrasts the letter's very radical message to Blue Frontier's more moderated version for the Floating Island Project:

Several high profile technology billionaires in the United States have advocated for the formation of legally independent territories, to promote new economic and social opportunities. These include Peter Thiel, co-founder of our nonprofit think tank, The Seasteading Institute, which promotes the creation of independently -governed floating cities – seasteads – to experiment with policies and technologies that could spur economic development around the world. I would like to set up a meeting with you.

(TSI, 2014: 45).

The waves of events that pervaded the Floating Island reflected followed-up the mismatch highlighted by Ranghanathan.

It is, therefore, best for special jurisdictions to coherently link their goals with steps to get there. If there is a social mission behind a project that involves stakeholders different from those making a project, it must be its core rather than a rhetorical tool for local support. If there is not a social reason as part of a project's mission, then projects should try to avoid adding something that is not true to their interests. This makes messaging much more straight-forward and creates an easier to digest image for non-ideologically aligned individuals.

Here, the offer to prioritise 25% of the Floating Island's residences to Polynesians did not change that, on average, the 'matters of care' -using Puig de la Bellacasa's (2017) notion, of Polynesians and seasteaders tend to be different. This explains why the 25% measure for Polynesian residents was perceived as superficial and not as a true community engagement strategy. This had more weight than international marketing, initial government support and beautiful architecture.

One way to craft a simpler message, for a SeaZone specifically, could be to focus on the real estate aspect, rather than emphasising on specific governance features that projects will deploy. Concepts such as freedom and decentralisation, while popular among governance niches and particular political economies, are not very friendly for governments. They make otherwise feasible projects with governance impact less digestible. Starting with small goals is, thus, more desirable. For example, one can propose creating a sustainable floating co-working/co-living space where entrepreneurs can work on blockchain and sustainability projects, such as carbon credits. This vision sells easier than decentralising governance and

helping communities adapt to sea-level rise. Having specific goals facilitates this messaging.

It is especially important, when the governance framework is complex, ambiguous, tangled, has multiple stakeholders and digital, spatial and legal aspects, for SeaZones and special jurisdictions in general to be particularly clear in stating what they want. If projects are not coherently crafted, they can sink in the midst of contradictions similar to those faced by the Floating Island. To name one example: the Floating Island Project sought to create more diversity in forms of governance by placing human settlements on the ocean. However, it targeted a particular type of demographic, taking few, minor steps to engage with the cultural diversity of the desired location. It seemed as if the desire for diversity in governance did not translate into cultural diversity in the Project's creation. Even when projects aim for forms of governance based on deterritorialisation and extraterritorialities, they should not forget the weight and importance of nationality and culture.



#### **8.4. Contributions**

This is the first doctoral thesis about the only attempt, so far, to create a floating Special Economic Zone, and the first one to study a SeaZone or seasteading-like project, from a complex system perspective. More specifically, I have used the complex governance field to understand and describe several aspects of the Floating Island Project, including its proposed form of governance, creation and fading. In doing so, I showed with empirical evidence the presence of several features of complex governance in the case study. These features were namely nested institutions, multiple levels of stakeholders and waves of cross-temporal events. Therefore, this thesis bridged the gap between the literature of special jurisdictions and complexity by bringing out fundamental features of complex systems which matter when creating floating Special Economic Zones. In doing this, the thesis made several original contributions, many of them to the field of complex governance.

In identifying and being able to conceptually describe and understand these phenomena, the thesis' main contribution to knowledge was to identify various legal, institutional, political, social, cultural economic, historic and environmental issues relating to the Floating Island that are encountered when trying to set up an new form of governance and a floating island. I shall, however, note that, by assuming that SeaZones exhibit complex governance features, I also assumed that there were complexity science approaches to understanding how we might begin to make sense of a series of events and processes that shaped the Floating Island Project. Ironically, the fading of the Floating Island helped me understand the scholarship of the complex governance field, where only a handful of publications discussed special jurisdictions from a complex systems perspective.

This is because the case study showed that, to a large extent, new forms of governance emerging in parallel to or within nation-states are still almost entirely under their control and influence. The prominence of traditional governance systems, such as elections and the nation-state, over the Floating Island goes a long way to explain why the complex governance field has not paid sufficient attention to special jurisdictions, such as SeaZones and Special Zones.

This thesis extended the complex governance field by examining a form of governance not yet fully explored by the literature, SeaZones. Thus, a second contribution of the thesis, specific to the complex governance field, was to expand the field by using a framework composed by particular features of complex systems (nestedness, waves, multiple levels of stakeholders) in relation to a form of governance that the field had not yet studied. The thesis showed how the case study exhibited key characteristics pointed out in the literature when dealing with complex governance: intertwined levels of multiple governance institutions and dealing with regulations that in many cases are tangled. The research also showed how multiple levels of diverse stakeholders were involved in the creation, governance and fading of the SeaZone.

Through the use of complex governance, I was additionally able to explain different ways in which the Floating Island and SeaZone concerned different demographics. This is important for the complex governance field because it shows the impact and influence that multiple levels of stakeholders, and their various perspectives of what they want, can have over the creation of a special jurisdiction or a project that involves floating architecture. That said, this and many of this thesis' findings also apply for land-based special jurisdictions.

The framework, and the concept of waves, additionally provided evidence showing the impact of history-dependence when creating a complex governance system. Now, it is not a new finding to argue that socio-political systems involve multi-level stakeholders or that they are nested. Nor is it novel to argue that a series of 'waves' shaped the events that were to unfold; Sylvia Walby has made this point already. However, it is novel to bring these aspects together specifically in relation to SeaZones and the creation of special jurisdictions and floating projects.

Indeed, this thesis also contributed to the field of seasteading, and the emerging field of special jurisdictions, by investigating, from a complex systems perspective, the governance, stakeholders, and even problems that arise in the planning and attempt to set up a SeaZone. Figuring out what happens when trying to take one a seasteading-like project in territorial waters from design to implementation had not been done before. Therefore, the third thesis contribution, specifically relating to the fields of seasteading and SeaZones, is to have found complex systems-related factors that affect their creation. Moreover, no one had yet reflected in a scholarly way on what shaped the fading of the Floating Island Project. Neither had there been a scholarly piece that explained why the presumed logical pass from SeaZones in territorial waters to seasteading in international waters is not as simple as several authors in the field believe. This is one way in which the thesis pushes the boundaries of knowledge in in seasteading. After all, seasteads measure autonomy by the possibility to choose and detach from a governance service provider. But on SeaZones, movements of floating houses are just a matter of changing neighbours, not governments. Dynamic geography floating zones cannot occur with only one because that means there is only a single SeaZone Authority to choose from. Hence why here I showed how autonomy in a SeaZone strongly depends on enclaved extraterritoriality, even though extraterritoriality

depends on autonomy too because without a certain autonomy, extraterritorial special jurisdictions do not exist. Thus, we then have a chicken and egg problem. It is this same nestedness that, in a way, challenges creating autonomy via extraterritorialities which also makes creating a floating special jurisdictions and other Startup Societies worth pursuing.

Now, in relation to Zones, an important contribution of this thesis is to unfold new factors that can play a part in the successful creation or lack of success of a special jurisdiction and floating island. Specifically in relation to zones, the zone literature previous to this research (Farole, 2011; Moberg, 2015a) had previously identified several factors determine the success in creation of special jurisdictions. For the World Bank (FIAS, 2008:51), the success of a Zone depends on its legal framework and on the incentives for private Zone developers and operators. It also explains that it depends on the integration of the Zone within the economy of the host country and its correlation with national policy frameworks (FIAS, 2008). Other factors found in the literature include the characteristics of the location (Nema and Pokhariyal, 2008), infrastructure and proximity to urban hubs (Pradeep and Pradeep, 2008; Farole and Akinci, 2011), and Zones' openness to professionals from everywhere in the world (Yuan and Eden, 1992). Factors that make Zones unsuccessful, which previous literature identified, include not offering enough fiscal incentives, having incompetent administrative bodies, lacking operational autonomy and offering incentives such as subsidises for rent (FIAS, 2008).

This thesis was first in providing additional, complexity-based reasons that can determine whether a zone project and floating island succeeds in moving from design to implementation. In a nutshell, this is how well do the developers manage to understand that they are dealing with a complex governance system and,

consequently, how do they choose to strategically navigate nested institutional frameworks, engage with stakeholders in multiple levels and are able to try to prevent, to the extent to which it is possible, waves that might surface in the creation of these projects.

Additionally, in most of these cases, success in the literature tends to be determined from the perspective of the jurisdiction creators, not the local population. This thesis distances from the majority of the literature that discusses creating these type of projects by linking success to how much a project benefits a local population. That said, the thesis also recognized the limitations of my own perspective, as an outsider, to determine what the local population in this case considered as success.

In brief, research like this one advances knowledge in three main ways. First, by examining a new kind of case study and form of governance, the Floating Island Project and the SeaZone. Second, by using the features of complex system theory nestedness, multilevel stakeholders and waves to better understand the governance and 'fading' of the Floating Island, the first attempt to make a floating Special Economic Zone. Thus the research directly expands two, if not three, fields, complex governance, zones and seasteading.

### ***8.5. Concluding Remarks and Future Work***

This empirical investigation allowed me to identify various legal, institutional, political, social, cultural, social, economic historic and environmental issues that are encountered when trying to set up an alternative form of governance and floating island. In doing this, I pointed out, from a complex systems perspective,

key issues that appeared in the governance, creation and demise of an alternative form of governance that is often in the media despite that no SeaZone exists yet. This thesis, thus, extended the knowledge about a type of governance that had not been explored in the literature of complex governance. More precisely, the thesis expanded the complex governance field by showing how features of complex systems - nestedness, multiple levels and waves - shaped the governance, creation and fading in this attempt to establish a SeaZone. The complexity perspective on the Floating Island Project also provides a new angle, about the case study and SeaZones, new to the literature about seasteading. It also seeks to call for an ethical perspective for acting in similar projects with more responsibility. I want to summarise this research's significance through a nautical analogy:

The field of floating special economic zones and special jurisdictions on floating islands, SeaZones, is new. We are in new waters. These waters are turbulent and have not been explored. There is no map for them. This research did not make the map. However, it explained some parts of the boat, of their assemblage, of the ocean, and how they relate. More importantly, the research also found rocks and icebergs that future boats could crash into by explaining the intertwined, environment-sensitive and history-dependent nature of these rocks and icebergs. Therefore, this research can help future projects and local communities create better boats to navigate the complexity of these new waters and the waves. This research is key for future alike projects, despite that, today, projects similar to the Floating Island are blips on the world's radar. However, in the coming years and decades, we will see other innovative maritime projects with special regulations.

More likely than not, SeaZones, floating cities and seasteads will see the light of day. Once set up, they will be worth millions, if not billions, of dollars, and will be home to millions of people. They will create and transform, on a systemic level, some cities and, by extension, governance and urbanisation as we know them today. Then, the importance of cases like the Floating Island, and the results of not understanding the implications of dealing with complex governance systems, could become tragic. And while today, self-governed private communities floating on the ocean sound closer to science fiction, legal, digital and spatial extraterritorialities are rapidly becoming more popular. This applies for floating real estate and architecture, floating islands and zones.

In 2019 alone, there were 500 new Special Economic Zones in development (UNCTAD, 2019:xiii). China is also working on a \$4 trillion projects connecting 100 Special Zones in Asia, Europe and Africa, the Belt and Road Initiative. Added to that, economic projections for the market size of the blue economy are around 24 trillion (Hoegh-Guldberg et al., 2015:5). Moreover, today there are serious engagements for creating new spaces to inhabit and the number of companies working on them is growing. Some companies, like SpaceX, are even NASA-backed, and have clear intentions for terraforming Mars, others for creating lunar colonies and underwater research stations. There have also been government-led and private capital-led ideas for buying sovereignty in territories from other countries. One example is Kiribati. This Pacific Island nation bought land on Fiji for climate refugees. And while ideas such as Trump's 2019 suggestion to buy Greenland from Denmark was not taken seriously, Prince Michael from Liechtenstein (2019) recalls that buying land used to be a legitimate state strategy for expansion. When seeing altogether, or better or worse, these extraterritoriality attempts cannot be ignored.

Works like this one provide examples of problems that emerge in new, water-based urbanisation trends. As such, this research can help future SeaZone projects, local communities other special jurisdictions and Startup Societies avoid erring in the same way as the Floating Island. It can be used to better understand the behaviour of the currents, tides, waters and the coasts where these boats will anchor in. Becoming familiar with the waves is as fundamental as being familiar with the coasts. After all, this thesis showed that the autonomy of these floating special jurisdictions is dependent on the will of the nation they are enclaves in. And while technically projects can legally exist through a state's approval, it is green light of the population what legitimates them.

Some areas of future work derived from the thesis can engage with tensions present in the case study, but which I did not explore here (extraterritoriality, path-dependency, self-organisation, diversity, etc.). They could also approach the case study from angles I did not emphasise here. One of them is how the Floating Island reflected critiques made to seasteading before. Authors such as Simpson (2016b), for instance, had criticised that the seasteading demographic of supporters is mostly composed by men. The Floating Island reflected this. Blue Frontiers, indeed, had no CEO, but five male managing directors, all with equal decision-making power.

To avoid repeating this and other power dynamics which surfaced in different aspects of the case study, I am particularly interested in engaging with a different approach to floating islands and maritime projects by looking at them as part of an integrated approach to understand environmental issues. These approaches would not only consider governance, potential tenants and territories but also the



meanings given by the peoples who neighbour and inhabit them. With this in mind, someone can decide to expand on the thesis' recommendations by exploring how complex governance can better inform inclusive climate action. This can happen when projects have environmental missions that are part of their cores and create, for instance, maritime or coastal Zones dedicated exclusively to sustainable issues or to blue cleantech. These type of Zones could become hubs for planning and designing sea-level rise adaptation and governance in ways that benefit all stakeholders, human and non-humans, involved.

This topic could not be of greater importance today. Many special jurisdictions are planned on greenfield zones where 'no one' lives. In the case of water, I have shown how even when there are no humans living on a plot of water, there are human neighbours, stakeholders, nearby. But I do not want to close this thesis without pushing this idea forward, restating what I hinted somewhere in the thesis. This is the idea that zone projects need to put at the centre non-human stakeholders too. For this, we need to plan and execute projects in ways permeated by preconditions of care for our world. I use in the same way of Puig de la Bellacasa's (2017:198) perspective when she quotes Tronto and Fisher: 'everything that we do to maintain, continue and repair "our world" so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life sustaining web' (Tronto, 1993: 103 (her emphasis))."

But caring, as Puig de la Bellacasa adds, "is more than an affective-ethical state: it involves material engagement in labours to sustain interdependent worlds, labours that are often associated with exploitation and domination...the meanings of caring are not straightforward. Interdependency is not a contract but a condition;

even a pre-condition” (Puig de la Bellacasa, 2017:198). With this in mind, the projects we participate in are an opportunity to actively intervene in favour of neglected, excluded stakeholders of the globalising world; those who cannot speak nor stand for themselves, or those who can’t but won’t, human and, especially non-human. Their wellbeing can, and should, be at the centre of our projects, our governance, our economics, our architecture.

That said, this research will, indeed, guide my own practice when doing business development for floating architecture and Special Jurisdiction projects after the PhD. I have now set up my own company and have named it Seaphia, a combination of “sea” and the Ancient Greek word for wisdom, “sophia” (Σοφία). With this name, I hint the type of services my company will provide. I will bring to the space the type of wisdom that comes when you operate under similar principles to this thesis’ best practices. For Seaphia, I have understood, as this research has shown, that the success of floating innovative developments lies on: a) projects bring led by locals, b) trust and reputation of the parties and members involved, c) good government relationships, d) economic self-sufficiency and e) a well-scouted location. However, a good location not only means favourable geography, weather, tides, waves and other oceanographic conditions. For a project to have a good location, locals need to be onboard and its future neighbours, human and non-human, should directly benefit from it. With this, there is no need for a map. The map will reveal itself.

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