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Dryland: Artificial Islands as New Oceanscapes*

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Abstract

Climate change induced sea level rise now threatens to redraw the physical geographical map of the world, radically altering coastlines and creating new ocean areas. Not since the submersion of the legendary Atlantis has the world witnessed the actual physical disappearance of a state. The extreme vulnerability of low-lying coastal areas and islands to sea encroachment is now notorious, with the most serious threat being to the continued viability and actual existence of island states such as Tuvalu, Kiribati and the Marshall Islands. Among the likely scenarios for some of these vanishing islands countries in the course of the next century, there is the possibility that, by relocating their populations on artificial islands, they could continue having some sort of status analogous to statehood even if they were to lose all territory. As some political leaders in the Pacific Islands Region have already suggested, such man-made structures could become alternative human habitats for landless island peoples. This paper argues that the idea of using artificial islands as new national territories and / or futuristic human habitats is noteworthy, and yet to be taken under consideration by both the scientific and political communities.

Keywords: artificial islands and structures; climate change; vanishing island countries; environmental refuges

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"Dryland is not a myth. I've seen it!"

[The Mariner, Waterworld]

"A map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing."

[Oscar Wilde, The Soul of Man Under Socialism]

Introduction: Dryland and New Atlantis

In Kevin Reynolds' 1995 film Waterworld, set an unspecified number of years into the future, the polar caps have melted and (almost) the whole planet is submerged by the oceans. The few survivors live in large floating constructs called atolls. The people of that sunken world long for Dryland, a mythical island where human kind can have a new beginning, and both heroes and villains embark on a quest for finding it. In his utopian novel New Atlantis, 17th Century author Francis Bacon portrays a vision of the future of human discovery and knowledge. Bacon depicts Bensalem, an imaginary island of scientific and social harmony governed by godly wisdom. Today, diverse concepts of inhabited artificial islands and structures (AIS) combine the two visions: salvation and enlightenment (Markly, 2012). On the one hand, those AIS are Drylands, because they are conceived as havens for people whose homes are going to disappear under the waves (VornDick, 2012; Adger & al., 2007). Because of climate change induced rising sea level, vanishing island countries like Kiribati, Tuvalu, Tokelau, the Marshall Islands and the Maldives will need to partially or entirely relocate their populations over the next two decades (Park, 2011).

AIS are an option on the table. As their president Anote Tong revealed, Kiribati's 100,200 people are already considering moving on to vast floating platforms as the rising Pacific Ocean begins consuming their atoll archipelago (Diplomatic Observer, 2012). On the other hand, some projects of man-made islands described in this paper are scientific and social utopias like Bensalem (Proetzel, 1983). In those "technoeco-logical" creations, innovative scientific and social paradigms are expected to enable the inhabitants to live in splendid social and ecological harmony (Dornob, n.d.; Cowan 2012). On such New Atlantises, climate refugees, oceanic pioneers, the inhabitants of overcrowded metropolises, or wealthy and exclusive communities could not only survive, but also thrive and enjoy a unique lifestyle (Zimmer, 2011; Pellissier, 2010).

While some artificial islands, like the *The World*'s 300 islands in Dubai - now a project in stasis - are designed as luxurious retreats for the global elite (Quinn, 2011), it should be kept in mind that, over the next twenty years, the dwellers of many world cities will have to face the Post-Diluvian dilemma "do we sink or swim, flee or float?" (Winn, 2011). AIS might be the solution to this conundrum. For example, Bangkok-based architects S+PBA have designed a floating "wetropolis" to replace eventually the metropolis of Bangkok (S+PBA, 2011). Also, future political utopias could be established on artificial islands. For instance, billionaire hedgefund manager and technology guru Peter Thiel has envisaged a libertarian floating country built on a series of physically linked oil-rig-type platforms anchored in international waters. The new state would be founded by entrepreneurs and have no regulation, laws, welfare, restrictions on weapons or moral code of ethics (Vidal 2011). "... Apparve Atlantide!" (Battiato, 1993).

Ecopolises and Floating Lilies

In the above-mentioned movie *Waterworld*, the life of the small communities living on rusty and fragile floating structures is miserable and dangerous (Pantzalis, 2001, pp. 23-27). As if they intended to disprove that fictional scenario, some utopians of design and technology have thought of much more appealing models of floating cities. The driver behind their creative efforts is not an aesthetic quest, but a noble cause: inventing a concept design of a permanent refuge for those who have lost their homes to the rise in ocean levels caused by global warming (Trend Hunter, n.d.; Wang, 2011). Two "oceanic dreams" in particular deserve to be examined. The first project is the futuristic idea of a Japanese corporation, the second concept is the brainchild of a talented European architect.

Following a request from non-profit organization *Chikyu Club Network 2000, Shimizu*, a Japanese technology company, devised a Green Float concept conceived as "a city that grows just like a lily floating on the water." (Shimizu Corporation, n.d.). In the Japanese designers' vision, such an artificial wonder would be self-sufficient and carbon-negative, hopefully allowing mankind to live harmoniously with nature. In order to present the Green Float project, in autumn 2008 Shimizu organized the *New Float Island Symposium* (Shimizu Corporation, 2009). Guests at the event included President Tong of Kiribati and Edward Natapei, the then Prime Minister of Vanuatu, who where all visiting Japan for the Fifth Japan-Pacific Islands Forum (PIF) Summit Meeting (Pacific Islands Leaders Meeting, or PALM) (Ministry of Foreign Affairs of Japan, 2012).

The Green Float concept envisions a cluster of artificial circular islands 3,000 meters in diameter that float on the sea near the equator. Each island supports a 700 / 1,000-meter tower combining various facilities, including residential, commercial, and green spaces. Every tower would host residences and hospitals in the periphery, while offices and commercial facilities would be in the center. Plants would grow along the tower's structure. Carbon dioxide and wastewater from the urban areas would be used to support the agricultural areas and livestock farming going from the base of the tower to the shore. Each floating cell district is designed to house from 10,000 to 50,000 people. Collectively, the districts would form a city of 100,000 inhabitants. Potentially, a group of modules could constitute a new country.

Green Float is designed to be powered by solar energy, ocean thermal energy conversion and wind and wave technologies. The project would integrate

environmentally-friendly systems such as carbon neutral technologies, complete waste-recycling, and structural materials containing magnesium obtained from seawater. The choice of positioning such cities along the equator is due the climatic stability and low-proneness to hurricanes of Equatorial Pacific (Enviro News, 2010). Shimizu's ambitious goal is to make Green Float an available reality for the people of island countries like Kiribati and Tuvalu by 2025 (Hall, 2012). ... Time will tell.

Besides Shimizu Corporation, floating lilies inspired also an award-winning Belgian architect, Vincent Callebaut, who has imagined a concept similar to the Green Float: Lilypad - A Floating Ecopolis for Climate Refugees (Vincent Callebaut Architectures, 2008). Like its Japanese "cousin", this concept is one of the few urban design solutions that address housing the inevitable tide of displaced people that could arise as oceans swell under global warming. Bio-mimicry was clearly the inspiration behind the design of this completely self-sufficient and carbon negative floating city. As the visionary architect revealed, "the design of the city is inspired by the shape of Amazonia's Victoria Regia great lilypad." (Daily Mail. 2008). Thanks to a number of technologies (solar, wind, tidal, biomass), the project is expected not only to produce its own power, but also to process CO2 in the atmosphere and absorb it into its titanium dioxide skin. Callebaut's floating cities are designed to accommodate approximately 50,000 people (Allix, 2009). A mixed terrain man-made landscape, featuring an artificial lagoon, a central lake filled with purified collected rainwater, and three ridges would create a diverse environment for the inhabitants. Lilypad cities are intended to be located either near the coast, or floating around in the high seas, travelling on the oceanic currents (Gilmore, 2008). In the designer's words: "The Lilypad project is actually a long-term solution to the problem of the water rising. [...] It is an amphibious city without any roads or any cars. The whole city is covered by plants housed in suspended gardens." (Fox News, 2008). Similarly to the Green Float concept's, the Lilypad's goal is "to create a harmonious coexistence of humans and nature." (Daily Mail, 2008). Despite the enthusiasm of its planner, and the mesmerizing beauty of its design, this oceanscape is unlikely to become reality anytime soon. Nonetheless, there is a value in future forward designs like the Lilypad and the Green Float (Riedy, 2011; Pickard, Jain & Ardern 2012), because they can inspire creative solutions which, at some point, may actually lead to a real solution for giving environmental refugees a permanent home (Morley, 2005).

A Plastic Utopia: Recycled Island

Does oceanic garbage hold the key for an artificial Dryland that could become a new home for the populations of vanishing island states? According to some Dutch conservationists, it does. In the broad expanse of the northern Pacific Ocean exists the *North Pacific Subtropical Gyre*. (Adkins, 2009) The Gyre is a slowly moving, clockwise spiral of currents created by a high-pressure system of air currents. The area is a sort of oceanic desert, filled with tiny phytoplankton but few big fish or mammals (Scripps Institution of Oceanography, 2009). Notably, the area hosts something else besides plankton: garbage, millions of pounds of it, most of it plastic. Of the more than 200 billion pounds of plastic the world produces each year, about 10 percent ends up in the ocean. Seventy percent of that plastic eventually sinks, damaging life on the ocean floor. The rest floats; and much of it ends up in gyres. Therefore, it is easy to understand why the North Pacific Subtropical

Gyre has actually given birth to several large masses of ever-accumulating trash, collectively called the *Great Pacific Garbage Patch*, floating between Japan and California (National Oceanic and Atmospheric Administration, 2012; Weiss, 2006). The floating dump covers an area one and a half times the size of the United States. According to Captain Charles Moore of the Algalita Marine Research Foundation, who was the first to find the huge, floating plastic dump in 1997, the Patch is "just absolutely gross - a truly disgusting plastic cesspool. [It] has to be burned into the consciousness of humanity that the ocean is now a plastic wasteland." (Heritage Salvage, 2010).

How to take action? Interestingly, some Dutch conservationists have conceived a visionary plan for eliminating such an "oceanic scandal": cleaning up 44 million kilos of plastic waste from the North Pacific Gyre and provide 10,000 square kilometres (3,861 square miles) of sustainable living space in the process. How? By creating an artificial island out of the plastic dump. Tellingly, the new island's name would be Recycled Island (Daily Mail, 2010). According to the website of Whim Architecture, which designed the concept: "The proposal has three main aims: cleaning our oceans from a gigantic amount of plastic waste, creating new land and constructing a sustainable habitat." (Whim Architecture, 2011). Recycled Island would be about the size of Hawaii's biggest island and would be located in between Hawaii and San Francisco (Chan, 2010). This plastic utopia is conceived as a stable and seaworthy island with its own sustainable foods and energy sources. Alongside a modern city of half a million people, the island would include a large area preserved for agriculture made of fertile soil obtained from seaweed and human manure. Agriculture would be complemented with sustainable fishing, and electricity for the island's plastic households would come from solar, wave and wind power.

In sum, Recycled Island is designed to be self-sufficient, providing food, power and work for the inhabitants (Luanaigh, 2010). In addition, this artificial island could be a unique opportunity for saving marine life. Because petroleum-based plastics are non-biodegradable, any plastic that enters the ocean stays there, continually breaking into smaller pieces until it is ingested by marine life or deposited on the shore. Sadly, birds like albatrosses eat the larger pieces which block their stomachs, while smaller pellets can cause fatal intestinal damage in fish (Heritage Salvage, 2010). With time, the island could also become a tourist destination and a new frontier for settlers looking for a "fresh new start" (Nelson 2011). Whim Architecture's website reads: "The project should be carried out with great care so no negative influence to the environment is made [...] Our ideal is to return more balance to the environment and set an example of how an environment-friendly habitat could be created." (Whim Architecture, 2011).

Notwithstanding the designers' statements of good intentions, the Recycled Island project has raised outspoken criticism from members of the scientific community. Scholars like Miriam Goldstein, whose graduate research is on plastic debris in the North Pacific Central Gyre, have pointed to a number of issues that question the feasibility and environmental friendliness of the Recycled Island project. According to Goldstein - leaving aside the technical challenges of actually creating a huge sea-worthy artificial island - Recycled Island is a negative utopia "because it would be environmentally damaging to collect enough plastic in the North Pacific Central Gyre to build their enormous island." (Goldstein, 2010) As a matter of fact, the vast majority of the oceanic plastic bits (>90%) are smaller than a

pencil eraser, and are spread out enough to be mostly invisible to the naked eye. This means that these pieces are the same size as much of the zooplankton. Thus, most of the organizations that have been out to the Gyre to study the Patch, have used finemeshed nets (333 microns, for the most part) that are designed to catch zooplankton. (Goldstein, 2010) Consequently, removing a significant percentage of the plastic without catching tons of zooplankton would be a very difficult task. And catching and destroying tons of marine life would not be a good way to meet the declared environmental criteria of the project and realize its vision.

Alas, the making of Recycled Island could be a case of heterogenesis of ends. Is this new oceanscape project little more than a far-fetched utopian construct? Maybe, but the value of visionary projects lies in their inspirational power (Lee Martin, 2008; Ogilvy, 2011). As British author Matt Ridley reminds us, a distinguishing feature of ideas is that they "have sex with each other to make new ideas." (Ridley, 2010). Hopefully, the Recycled Island concept will drive more people to "think around the corner," and figure a more practical solution out. Indeed, the Pacific Garbage Patch is not going to disappear on its own.

A Possible Utopia: Neft Daşları

Oil platforms have been in existence in some form or another since the early 20th century and people have been temporarily living on them for nearly as long. Of the thousands of platforms around the world, there is one area of platforms that conveys this sense of temporality. Far beyond a mere platform, Azerbaijan's Neft Daşları (English: "Oil Rocks") is, quite literally, a city built from 2,000 platforms, abandoned ships, and landfill, and has existed since the 1950s in the waters of the Caspian Sea, 55 km offshore (Artificial Owl, 2011). As modern offshore platforms began to evolve in the 1930s and 1940s, an ambitious Soviet megaproject was conceived in the wake of World War II: a city built directly over top of the oilbearing rocks underneath the Caspian Sea. Built mostly on top of poles standing in 12 m of water, the city - called Neftyanye Kamni ('Oil Stones'; Azeri: Neft Daşları) - is based around a central hub; an artificial island where the main oil wells lie (Igorey, 2010). Created in 1951 from 500,000 m3 of landfill brought from two nearby islands, the central island is 7,000 ha in size. Between 1952 and 1958, a network of interconnected platforms and wells and sprung up around it. From the central island, a maze of roads built upon trestles (at one point about 200 km of roads) connected the various platforms, ships, and artificial islands.

The permanent population of Oil Rocks was last counted at 933, but this does not include the 2-to-5,000 people who work in such a unique city at any given time on weekly and bi-weekly shifts (Basement Geographer, 2011). Oil Rocks has almost everything you could expect in a small city: five-to-nine-storey high-rise apartment blocks; a power plant; a hospital; a school; a cinema; an open-air green park; a community centre; a bakery; even a lemonade factory. People even grow apples and tomatoes in private gardens (Stig Hansen, 2010). Due to the lack of maintenance, over time the waters of the Caspian have gnawed away at Neft Daşları. Slowly, the city is disappearing into the water as a result of constant pounding from waves and corrosion. Two-thirds of the roadways connecting the various platforms have fallen into the Caspian, and many no longer lead anywhere (The Basement Geographer, 2011). Nonetheless, the city still stands and lives as a reminder of a possible utopia.

Neft Daşları is definitely not a fancy, high-tech and visionary concept like the

floating cities. But, unlike the futuristic lilies, it is a realistic project: both technically and financially. Within a relatively short time, little Pacific Oil Rocks could be built on network of interconnected platforms around an artificial / reclaimed island serving as a central hub. The people living on these settlements would not sail the oceans on self-sufficient and carbon negative marine ecopolises. Nor, they would be living in almost science-fictional towers 700 m above the sea level. Actually, their new homes would be considerably dependent on imports of food, freshwater and energy from the outside world. Also, the very existence of these structures would be threatened by the fury of the elements. At the same time, the green and smart technologies and solutions thought for the promethean floating islands could be employed to make future platform towns safer and improve their habitability. A Pacific Neft Daşlarıs can be tomorrow's reality. The Green Floats and Lilypads are for tomorrow after. Sometimes, also utopia must be "the art of the possible".

Legal Atlantis

The new projects of man-made sea habitats presented above have revived the debate about the rights that could derive from the construction of AIS and the legal status of such man-made formations. In particular, the use of AIS as a means of conserving territorial sovereignty over vanishing areas is an upcoming aspect which is yet to be taken under consideration by both the scientific community and policy makers (Tsaltas & al., 2010, p. 1). Artificial islands have become valuable resources in supporting urban expansion and tourism ventures in recent years (Conway, 2009). Likewise, in the context of sea level rise, they may prove useful to facilitating the reclamation and preservation of land, to serve as habitats that can be populated by humans, and as symbols / generators of sovereignty (Kelman, 2006, pp. 61-69).

Many of the current international legal rules governing the status of artificial islands are found in the United Nations Convention on the Law of the Sea (UNCLOS) (Australian Government, Department of Agricolture, Fisheries and Forestry, 2012). Unfortunately, the UNCLOS seems to be at odds with the contemporary as well as the potential uses of AIS. Under the UNCLOS, islands may generate maritime zones, but the Convention's rules governing islands effectively exclude artificial islands from the definition of an island, which requires that the land be naturally formed (Galea, 2009. pp. 1-3). In fact, the UNCLOS' Article 121(1) defines an island as "a naturally formed area of land, surrounded by water, which is above water at high tide." (Third United Nations Conference on the Law of the Sea, 1982). This definition prevents some types of formations, including islands constructed artificially and land masses at low-tide elevations, from having the legal status of islands. The UNCLOS further states in Article 60(8), "at least in the context of the Exclusive Economic Zone (EEZ), and through Article 80 regarding the continental shelf," (Gagain, 2012, p. 101) that "artificial islands, installations and structures do not possess the status of islands." (Third United Nations Conference on the Law of the Sea, 1982). Moreover, although there is a general right under international law for a state to construct artificial islands, given that these manmade formations are not recognized as islands, they cannot generate maritime zones. (Mom, 2005, pp. 23-24).

"Things thus standing," the issues of *a*) founding new states whose land solely comprise of AIS; and *b*) allowing man-made installations to replace the lost territory of an inundated island state, are very controversial. As for new states being

established on AIS, in the past several attempts have been carried out by individuals, but none of them seems to have accomplished its purpose, namely the formation of a new state. None of the private-owned experiments in creative sovereignty on AIS conducted in the 1960s and 1970s was ever recognized by even a single state (Walker and Bellingham, 2011, p. 34; Levi, 2009). Roy Bates' Principality of Sealand (Telegraph, 2012) off the Suffolk coast, and Leicester Hemingway's Republic of New Atlantis in the Caribbean (Hale, n.d.), remained romantic dreams. Presently, under existing international law it is generally understood that individuals and / or corporations cannot establish new independent states through the construction of artificial islands (Papadakis, 1977, pp. 114-115). However, there is the possibility that future efforts toward statehood on AIS may be legitimized through general recognition by the existing states (Ödalen, 2012) especially if high-tech AIS hosting large numbers of population will start being erected (Tsaltas & al., 2010). For sure, Peter Thiel's like-minded people will try hard. Technology and cash are on their side (MSN, 2012).

"Contrarily to limited loss of land, or even loss of some insular areas, inundation of a state possess a series of very important problems, which can be concentrated in one term, - dissolution of a state." (Tsaltas & al., 2010). Unfortunately, public international law contains no regulations for this issue. It seems that the disappearance of a state is an issue that has slipped that attention of international law makers. "Of course, inundation is not equal to *vaporisation* (italics in the original) of a state," (Tsaltas & al., 2010) since the two other main elements of the state (the third element being territory) do exist, population and government. The problem is that population has no safe habitat and the government has no land to dominate. For this reason, some legal commentators have proposed expanding the UNCLOS to allow man-made installations to replace the lost territory of an inundated island state, ultimately in the form of a legal framework to allow the nationals of that state to maintain the state's sovereign rights (Gagain, 2012; Tsaltas & al., 2010).

Indeed, it would be realistic to incorporate the rights of the people of a possible submerged state to a legal framework, in order to enable them to use technology to produce man-made constructions, which would substitute some aspects of their lost territory (economic rights, maritime rights or habitat). As Grigoris Tsaltas argues, it would be "only fair to assume that AIS of critical value for the preservation of a state should be regarded as part of that state." (Tsaltas & al., 2010). Considering that the UNCLOS was intended from its inception to be a "constitution of the oceans," (Van Dyke, 2006) the governments of the states at risk of inundation should advocate for a new rule to give effect to artificial islands statehood, and effect to them under the Convention in light of the impacts of sea level rise on maritime zones (Gagain, 2012). If nations relocating on AIS are going to become tomorrow's reality, international law should adjust to this coming scenario. Future Atlantises need not only to be new, but also legal and sovereign.

Pacific Land: The Real Dryland

The Pacific is a "sea of islands". Guadalcanal, Oahu and Nauru are all Pacific islands. Those islands are the Drylands that Pacific islanders' ancestors settled after navigating the ocean. For centuries, people have been migrating from island to island to find new land and sustenance (Fischer, 2002). There is no reason why this Pacific phenomenon should stop. As Kiribati's president Anote Tong stated: "We

are considering all possibilities and we're not discounting the possibility that in time we will not only relocate within the country but it will be necessary to, I think, relocate in a country outside our border." (Fiji Times, 2012). This option appears to be practicable but complex. Most importantly, it is predicated on the willingness of other Pacific nations to take their Pacific brothers in (Jarva, 2011). President Tong noted that "[...] there haven't been a great number of offers coming forward but I'm very happy to say that a number of Pacific countries have come forward." (Fiji Times, 2012). Actually, it is very telling that, while "big brothers" like Australia and New Zealand seem still reluctant to offer a new home to future climate refugees, East Timor - a small developing country which is an observer at the PIF - "has made a concrete offer." (Fiji Times, 2012).

Tong has also announced he is in talks with Fiji to buy up to 5,000 acres of land for Kiribati people to live on. The land Kiribati wants to purchase is understood to be on Vanua Levu, which is Fiji's second largest island (Reilly, 2012). Actually, this would not be the first time for people from Kiribati to resettle in Fiji. In 1941 the British government purchased Rabi Island (in today's Republic of Fiji Islands) from the Australian firm Lever Brothers for £25,000 to serve as a new home for the Banabans of Ocean Island (Banaba) in Kiribati, whose home island was being rayaged by colonial phosphate mining (Flude 2002). The Banabans moved to Rabi after WWII and, today, they are citizens both of Fiji and Kiribati (Abara Banaba, 2001). If the Vanua Levu land deal will be finalized. Mr. Tong said skilled workers will be sent to Fiji first, so they could easily integrate with the country's population and provide a positive contribution to the economy. "They need to find employment, not as refugees but as immigrant people with skills to offer, people who have a place in the community, people who will not be seen as second-class citizens," he declared (Reilly, 2012). Notably, the Kiribati Education Improvement Project has been launched in Kiribati, aiming to make Kiribati's citizens more attractive as skilled migrants (Coffey News, 2011). Another alternative new home, according to Tong, could be one of New Zealand's islands. "Every time I fly to Auckland I see these huge island masses which they think are derelict islands and we would love to have them," the President remarked (Malkin, 2011). Not surprisingly, despite his keen interest in artificial islands, Mr. Tong himself has admitted that, without any second thought, he would prefer to live in an island than a platform (Field, 2011).

There are plenty of islands in the Pacific. Many of the habitable islands are uninhabited or could easily accommodate more people. Those islands can (and, in the opinion of the author of this paper, should) be *the real and best* Drylands for the climate refugees of the Pacific. Of course, once they are safely settled on those islands, the former refugees could be presented with the choice of moving to artificial islands or continue to live according the "old ways" in their new homes. Then, living on man-made New Atlantises would be the result of a free decision, not of the imperative of survival. Only then, the artificial islands would be new spaces of freedom, not refugee camps (Sobhanian & Saniotis, 2008).

Conclusion: The Children of Change

The children of Tuvalu, Kiribati, Marshall Islands and Maldives are the children of climate change: the first generation to face the very real possibility of losing their homeland to rising sea levels, making them environmental refugees. For them, climate change is not a scientific and political issue - it is their everyday's

reality (Riedy, 2012). Their homelands face extinction within a century. Within their lifetime, these children will be looking for a lifeboat as the rising tide engulfs their countries (Crouch, 2008). Will these children move on artificial islands or to new lands? The future, as Karl Popper reminds us, is open (Chmielewski & Popper, 1999). However, we cannot discount a scenario where the population of vanishing island countries will be living on artificial islands and structures. In that future, there will be also children growing on artificial islands created to provide living space for the population of megacities or to realize a political project or utopia (Binns, 2012). Those would be children of change too, social and technological, if not climatic. All those children will be the inhabitants of new island-scapes colonizing the marine horizons. Eventually, there could be hundreds of thousands, if not even millions of "seasteading" people living on Drylands and New Atlantises. Independently of its eventuation, such a possible tomorrow poses legal, scientific, political, moral and ecological questions that warrant investigation, reflection, and action (Burke, 2009). "In Tuvalu, the sea level trend to date is 5.7mm per year - a trend that could soon leave the children of Tuvalu cast adrift." (Crouch, 2008).

"Lest those islands still seem to you too remote in space and time to be relevant to our modern societies, just think about the risks..."

[Jared Diamond, Collapse: How Societies Choose to Fail or Succed, 2005]

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