UPLanD – Journal of Urban Planning, Landscape & environmental Design, 2(3), 273-284 [2017]

UPLanD
Journal of Urban Planning, Landscape & environmental Design

Research & experimentation
Ricerca e sperimentazione

AQUATIC URBANITY: WATER AS PLANNING AND TERRITORIAL INSTRUMENT CONSIDERING THE 9 DASH LINE POLICY.

Gerhard Bruyns, Peter Hasdell

[a] *Environmental Design Unit, School of Design, The Hong Kong Polytechnic University, Hong Kong.*

HIGHLIGHTS

- The appropriation of the South China Sea and resulting contestations have geo-politicized the importance of aquatic bodies as a means for sovereign domain.
- The challenging of water as simply an urban resource leads to new questions of the role of the aquatic in future urbanity.
- Design's explorative methodologies allow for both the fracturing and reconfiguration of 'hydro-social-territories'.

ABSTRACT

The notion of territoriality, territory and terrain are all derivatives of 'terra' or 'earth.' As discourse, 'territory' has remained largely land centred for its terminologies, means of representation or in its application within urbanization. Water, conversely, is often considered as a resource or as a specific morphological characteristic but rarely as a key object of discourse. China's claim within the South China Sea and the subsequent creation of newly formed 'island outposts', has brought to light the political welding that water holds, as both territorial claim and negotiating instrument. Particularly significant in the context of increasing pressures on development in this urban age.

This paper examines how the substitution of 'terra derived' concepts with that of 'hydro' driven concepts, impact the domains of territoriality in planning and urbanism. Focus is placed on speculative projections of design work that highlights one possible method of reconfiguring the territoriality of the South China Sea. Consequentially this work questions the assumptions and spatial ideologies in the 'nine-dash line' policy.

ARTICLE HISTORY

Received: July 11, 2017
Reviewed: September 30, 2017
Accepted: October 10, 2017
On line: December 31, 2017

KEYWORDS

Speculative Territory
Aquatic
Urbanisms
South China Seas
Environmental Design

Copyright 2017 Gerhard Bruyns, Peter Hasdell
gerhard.bruyns@polyu.edu.hk, peter.hasdell@polyu.edu.hk
ISSN online 2531-9906 | Open access article under CC-BY-NC-ND 4.0 International License

1. WATER AS LANDSCAPE

> *"Plato spoke of the city of Atlantis, submerged 9000 years previously for having made war against Athens. It was also thought that the ocean depths were home to a strange and wonderful range of monsters, which, being generally considered hostile to mankind, were best left undisturbed. These monsters were used to decorate the empty spaces on early maps, where they served to lead the eye toward the distant coastline".* (Hemming, 2008, p.199)

The notion of territoriality, territory and terrain, are all derivatives of 'terra' or 'earth.' As such, they underscore a discourse that has largely remained land-centred for its terminologies, its means of representation and in the application of planning and statutory instruments within the broad spectrum of urbanisation. Water, conversely, is often considered a resource, a specific layer or component of settlement morphologies, rarely claiming the primary position within the spatial discourse (cf. Swyngedouw, 2015; Bruyns, 2011).

China's continued dispute with Vietnam, the Philippines and Malaysia, over the South China Sea's water territories and its subsequent creation of newly formed 'island outposts', has brought to light the political welding of water as both territorial and negotiating instrument. Dating from 1947 (Beech, 2016) this claim, presently known as the Nine-dash Line, extends the national border well beyond the 200 mile agreed continental limits. Argued by China, on the one hand, as part of its historical territories dating back hundreds of years, and on the other hand, contested by others in contravention of the United Nations Convention on the Law of the Sea (UNCLOS). In this light, China's view of water as territory - at the continental scale - has been a divisive instrument (BBC World News, 2017; Dodwell, 2017). Whereas China has implemented a unified approach to territories and settlements along the old silk routes through its 'one belt one road diplomacy' (Jinchen, 2017), conversely, its 'water-borne' strategies have caused both strategic and regional instabilities. To give substance to this claim, China has reclaimed over 15km2 of islands on former reefs to date one seven key sites and converted at least four of these into inhabitable islands.

This has geo-politicized the importance of aquatic bodies for sovereign dominions. Although Chinese culture and settlement has always had strong connections with water in terms of its urban development - historically inseparable from the political, economic and administrative culture (Ball, 2016) - the claim in the South China Seas has given new meaning to both a society that was once termed the 'Water Kingdom' (*ibid*) and the use of 'water-aligned-policies' as demarcation and bargaining elements for new territorial expansion. This strategy is in stark contrast to the role of water during colonial times as newly appropriated and territorialised edges, islands, concession and treaty ports, trade routes and shipping channels. These were viewed as coastal territories, extensions of land and access to that land.

This discussion examines how the substitution of 'terra derived' territorial concepts, referencing landscape features, topographical aspects and traces of humanity (infrastructures, public spaces and settlement patterns) impact the conceptual and spatial domains within planning. Thereafter it reflects on speculative projections cognisant of water policy and forms of aquatic law, historical and oceanic events, sea currents, wave cycles, sub-surface depths, and oceanic ravines as facilitators for aquatic driven urbanisation. The use of design work (Chan, 2017) highlights the methods of local water urbanisms versus claimed portions of the South China Seas, where political and spatial ideologies merge in the Nine-dash Line as 'negotiated' and imagined territory.

2. PROBLEMATISING WATER AS URBANISMS

The key problem outlined in aquatic driven urbanisms is two-fold. First, a critical observation finds that aquatic urbanisation - mythical examples such as Atlantis aside - is predicated on edges and proximities to territories and the stable referents the land provides. Out at sea, away from the certainty of terra firma, both process and practice become relative in which a stable referent and scale may not be found. The second aspect refers to ideological positions. Through the aquatic, as edges that are neither land nor water, aquatic bodies may only have codification in international law that becomes territorialised as a right to fishing and other resources, but not as full tenure.

Often, impacting 'local urbanisms', water is politicized as a negotiation instrument (Maxwell, 2011), repositioning its value to one of a speculative commodity, facilitated by forms of governance (Bakker, 2010) and opposed through local contestation (Robinson, 2013). In comparison, at the regional and more global level, water is militarized, a de facto position that territorializes aquatic bodies for the sake of national interest and gain. In urbanistic terms, water has always been a key resource for the formation and development of human settlements, in both the Occident and the Orient (Von Thünen, Hall & Wartenberg, 1966). Within the long history of settlements in the Middle Kingdom, the development of irrigated agriculture along China's primary rivers and lake systems has been a significant contribution to its socio-cultural and economic development. One that has led to the propagation of cities and water management as an integral part of territorial developments in many places, not only on its coastal edges. For instance, the development of the Yangtze River and Yellow River basins and linking of the north and the south through the Grand Canal, not to mention the development of canal networks in places such as Suzhou or the Dujiangyan Irrigation System near Chengdu, are all focused around water as resource and conduit. Although this has often had strategic implications depending on the geopolitical climate at the time, China like all continental countries oscillates its development between the coast and its inland waterways and systems during times of expansion and contraction (Kimmelman, 2017).

The role of water as an essential resource has been well documented to be central and communal to all societies and their modes of production. Even so, the rights to water - or its access of free usage – has become a question of technocratic power (Maxwell & Yates, 2011). As a resource, the rights and privileges water brings are commodified, meant to serve inhabitants through state instrument of control and power (Bakker, 2010). Within neoliberalism, the role that water claims within the overall urbanisation process(es) has changed (ibid). The privatisation of water as urban resources impacts the way government policies affect processes of urbanisation as well as the types of urban development that occur; its value for instance valued through its attractiveness within coastal or river based cities (Meyer, et al, 2010), or, as acquired 'trans-national' commodity imported to sustain cities - as in the case of Hong Kong (Holland, 2017) - the impact that water has in determining the longevity of human existence within urbanised regions remains as pressing as ever. The deliberate sidestepping of the local communities, and their needs has led to 'governance failures' (Bakker, op cit), initiating community driven water 'struggles' that have become a movement at a global scale (Robinson, 2011).

Consequentially, renewed efforts to reposition water as urban resource has led to questions of water harvesting communal sharing. As collective capital within the urban 'commons' (Sohn, Bruyns, et al, 2011), this has become a tactical (anti-water privatisation) opportunity that empowers local democracies within levels of accountability (Robison, 2011). Distribution of water resources in high density conditions such in the now demolished Kowloon Walled City (1987) commonly formalised the sharing of eight community taps for 35000 residents (Girard, 2014). We find other alignments of the social and political in the waterlogged landscapes of the Netherlands, for instance. Dutch urbanisation, whether at a local or national scale, dependents on a socio-spatial construct of the 'polder-model' that derives its operational process from a collective incentive of social and infrastructural resources to deal

with water and the city in the Dutch Delta (Meyer, Bobbink, et al, 2010). Within the polder model shared responsibility is society-based directly facilitating the development of new concepts for living with water, water management and the morphological expression of water as contributing characteristic of daily life.

Due to what can only be termed 'Resource globalisation' (Bakker 2013), it is projected that water as key resource will be significantly impacted by climate, economic growth, energy and demographic tendencies. This will place increasing pressure on the manner in which governments implement privatisation policies against the needs of water based communities. Moreover, it is believed that the greater emphasis placed on water privatisation in the post-neoliberal era, coupled with the 'selective retreat' of private companies (ibid,) from specific urban regions has in fact intensified free market thinking, amplifying the demand on water resources and water as space for urban development in the 21st century - irrespective of developing or 4th world contexts. Signs of this can be seen for instance in various city states, including Dubai, Singapore and other localities which increasingly look to the blue as possible sites for urban development.

As a collective condition, history abounds with examples of water settlement as no-mans-land, the nebulous grey areas surrounding water regions. As such, Manhattan's early waterfront being one example, land of this kind is claimed by the disenfranchised who appropriate water edges, settle adjacent to, or, within the aquatic. Hong Kong' indigenous Tanka people, at times regarded with lower social status, settled in mudflat communities in regions of Tai O where existence, livelihoods and rights have been greatly impacted by their territorial position (Sun, 2015). Hong Kong's aquatic history mirrors the slow disappearance (over a 20-year period) of floating villages mainly habituated by refugees whom had limited rights. Elsewhere, the historic condition for floating communities in places such as Lake Titicaca in Bolivia, Inle Lake in Myanmar, Siem Reap in Cambodia, the occupations and settlements on water bodies have, often, been an urbanity associated with the disenfranchised.

A secondary issue at the regional level strategies associated with larger water driven urbanisms that reveal characteristics akin to aquatic militarization. For instance, China's President Xi Jinping in September 2015 publicly pledged protection and militarization of the South China Sea against any form of aggression or invasion (Austin, 2017). Exemplified in the South China Sea's case is the intention of territorial control, whereby the claiming of sections of oceans precedes the implementation of policies that 'reclaim' land through the systematic construction and urbanisation of islands, reefs and corals. In doing so the right to abode, travel across, or influence policy impedes on existing sovereign domains disengaging the rights to fish, or the use of water as a source of income by the adjacent territories of Vietnam, the Philippines and Malaysia. Reference can be made to the vast systems of off-shore oil platforms whose progenitor was the Soviet-built Oily Rocks in Baku, Azerbaijan; the multitude of interconnected resource platforms spanning water bodies have been used as infrastructure islands within the North Sea, the Gulf of Mexico and the seas around Indonesia. Although the mobilisation of infrastructure remains necessary for the extraction of oil and gas resources, in many instances their mobilization occurs with almost military level of governmental integration and outside of international law as an issue of national security.

Over and above the politicisation of water, this reframes the assumption that urbanisation has primarily been land based. The transference from 'terra' (land) to 'hydro' (water) indicates new directions within the Anthropocene, whereby three distinct concepts reformulate control of the aquatic; territorialisation, de-territorialisation and re-territorialisation. In terms of territoriality or territorialisation, forms of ownership of a demarcated area are claimed (Elden, 2013). De-territorialisation reconfigures all previous forms of order over that specific region; whereas the re-territorialisation of the same region, especially valid in the South China Seas, is an intervention over contested 'territorial seas'. In each case, the questions of governance and politics are brought into new light, altering the true configuration of what is terms a 'hydro-social-territory' (Boelens, Hoogesteger, et. al. 2016). As a concept, this refers to

the spatialisation of contested imaginary and socio-environmental entities. Each 'hydro-social-territory' is bound by multi-scalar networks in which water, people, economics, politics, cultural institutions and practices converge in new cultural and physical orders. Possessing the ability to reformulate a variety of international conventions governing the oceans. Primarily, newly formulated territories challenge international laws that convene direct access, the right to mine, use and appropriate both seabed as well as continental shelfs. They defy exclusive economic zones, described by the United Nations conventions of the Law of the Sea. Within this definition, states are given special legalities to expropriate marine resources, inclusive of wind or water as energy reserves. Although still conceptual in its development, 'hydro-social-territory' leaves other questions unaddressed. How would this materialise in an actual sense, as either physical territory or as network? Would the 'hydro-social-territory' become an overarching label placed over a set of circumstances of aquatic driven processes or, can this concept find other means to explore its details of resolution through which each place can materialise?

3. WATER CARTOGRAPHIES - REGIONAL AQUATIC URBANISMS.

With design fulfilling both the roles of a synthetic process and of analytic skill, design projections satisfy the fertile gap by being both a methodological means of exploring the implications of territorial understanding and, as a speculative vehicle that opens other questions within 'hydro-social-territorial' constructions. The quest for aquatic alternatives here remains key; the way territories are conceptually reformatted. Either through means of representation, or as a proposed re-registration of taxonomic orders, design's explorative methodologies allow for both the fracturing and reconfiguration of normative concepts.

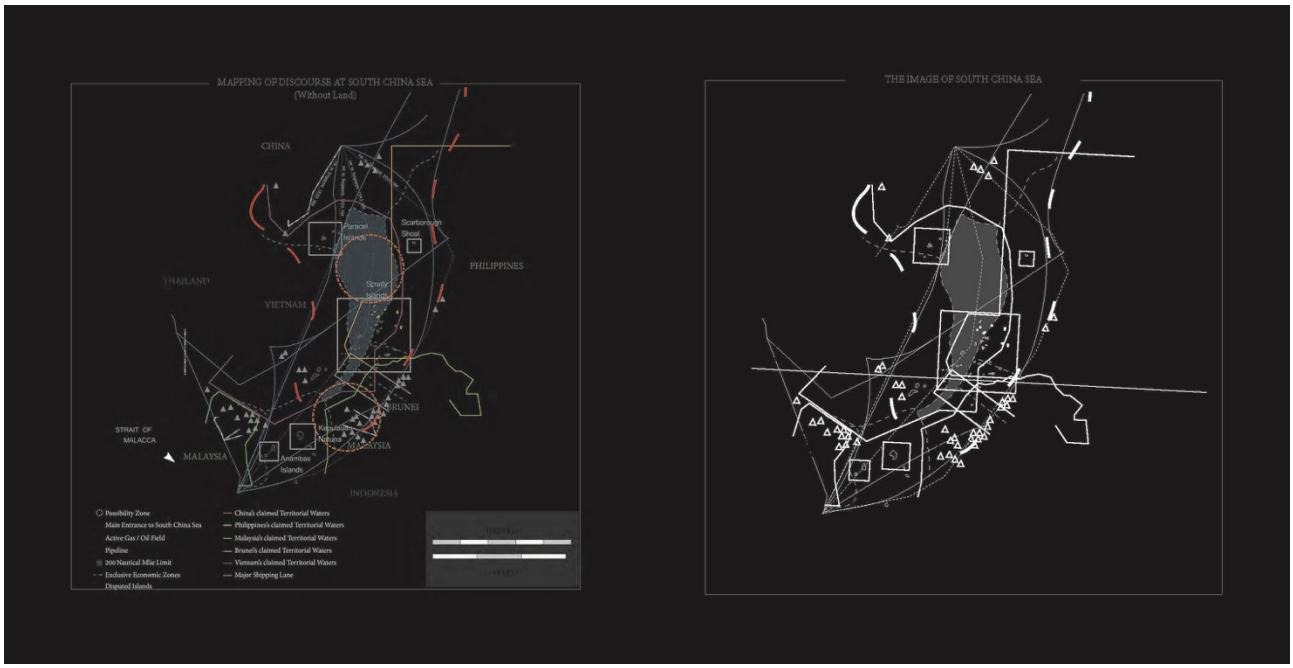

Figure 1: Contextualisation of the territorial domains according to the Law of the Sea (UNCLOS) and the disputed Chinese proclaimed nine-dash line area. *Source: J Chan, 2017.*

Jacky CHAN's (Chan, op cit.) cartographic work – seeks to question 'Aquatic Territoriality' by way of exploring the potentials of alternative urbanisation within the Nine-dash Line context. Working within the understanding of 'hydro-social-territories', the core premise centres on an aquatic understanding of territory, refuting all grounding notions, descriptions and visual lexicons which have generally been land based. Secondly, the project aims to initiate a dialogue through the 'aquatic' to reformulate planning terminologies shown in the South China Seas. (Figure 1).

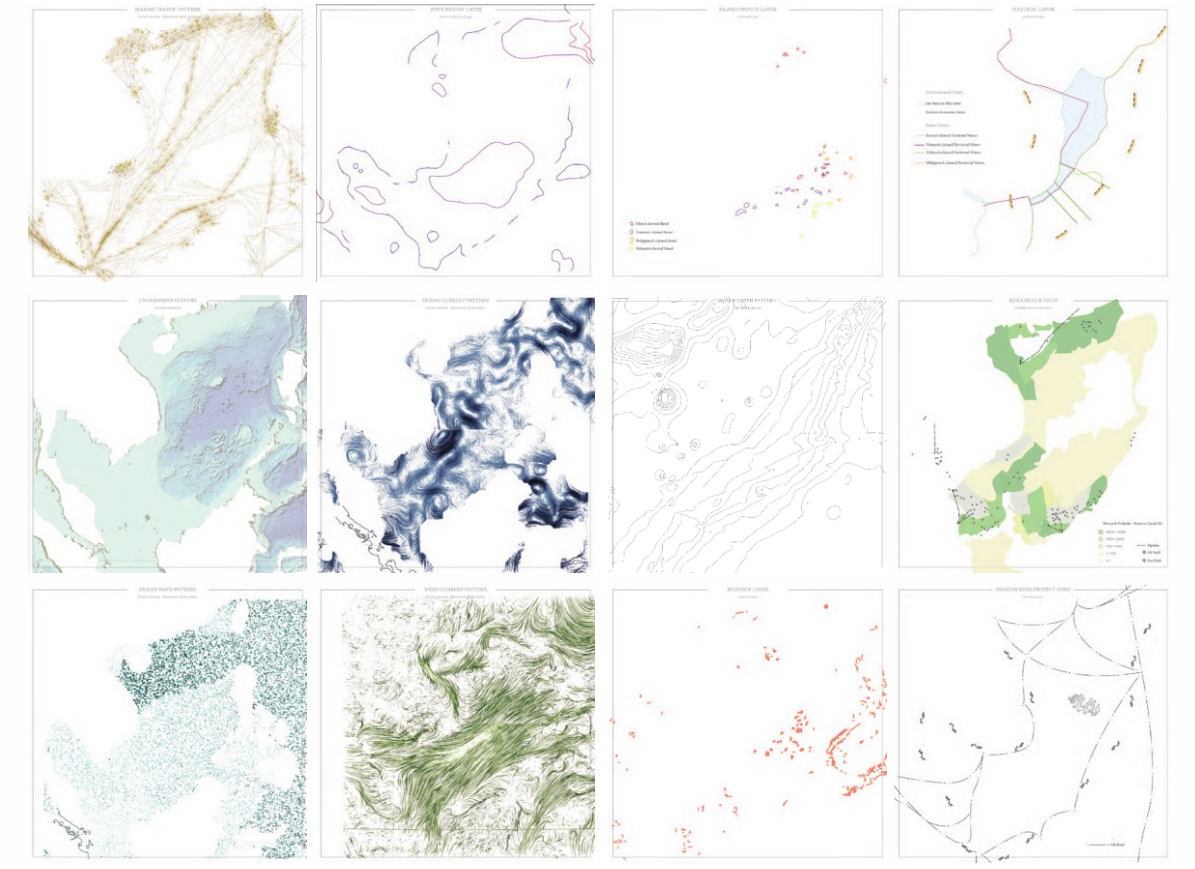

Figure 2: Detailed analysis of aquatic conditions (from left to right, top to bottom); marine traffic patterns, island disputes, political layers, underwater features, ocean current patterns, wave depth patterns, aquatic resources, ocean wave patterns, wind currents, ecological and coral systems and superstitions. *Source: J Chan, 2017.*

The methodological and conceptual shifts explicated in this work focuses on how the maritime chart becomes the new operative device; fluid, hypothetical as well as contextual, to express the complexity of this newly articulated aquatic landscape. Within both the scholastic and artistic worlds, the series of analytical maps pertains to the technical applications that cartographies hold as speculative instruments, first and foremost. Thereafter the work becomes a mapped parable that questions reality, on the authority that cartography offers a critique. The blurring of this 'horizon' of reality and fiction, serves to problematise the discourse of power that binds territorial aspects upheld by way of architecture, planning, territoriality. Serving to both endorse and delegitimize the forms of territory in the nine-dash line area, Chan documents what he terms 'critical possibilities'. Herein the potentials of

natural resources, underwater features, 'mythical' places, pipelines, connection routes, coral or island escarpments, newly formulated land parcels, types of architecture bound to each new landmass and coordinates that relate to conflicts, disputes or war are collapsed into the legality, rectitude and solidity of each territorial construct. These issues open questions of representation. Questioning the authority vested in the lines that demarcate a projected territory in ways exemplified by Jorge Luis Borges parable "On Exactitude in Science" outlining the folly of making a map at the actual scale and size of the territories they represent; exposing imaginary worlds between the fragments of the map and the territory it covers. No longer based on an ontological comprehensible reality but a possible condition of inhabitation - between reality and representation- Borges maps operate between the known and the unknown (the speculative) and between that which can be represented and that which will always be outside of representation.

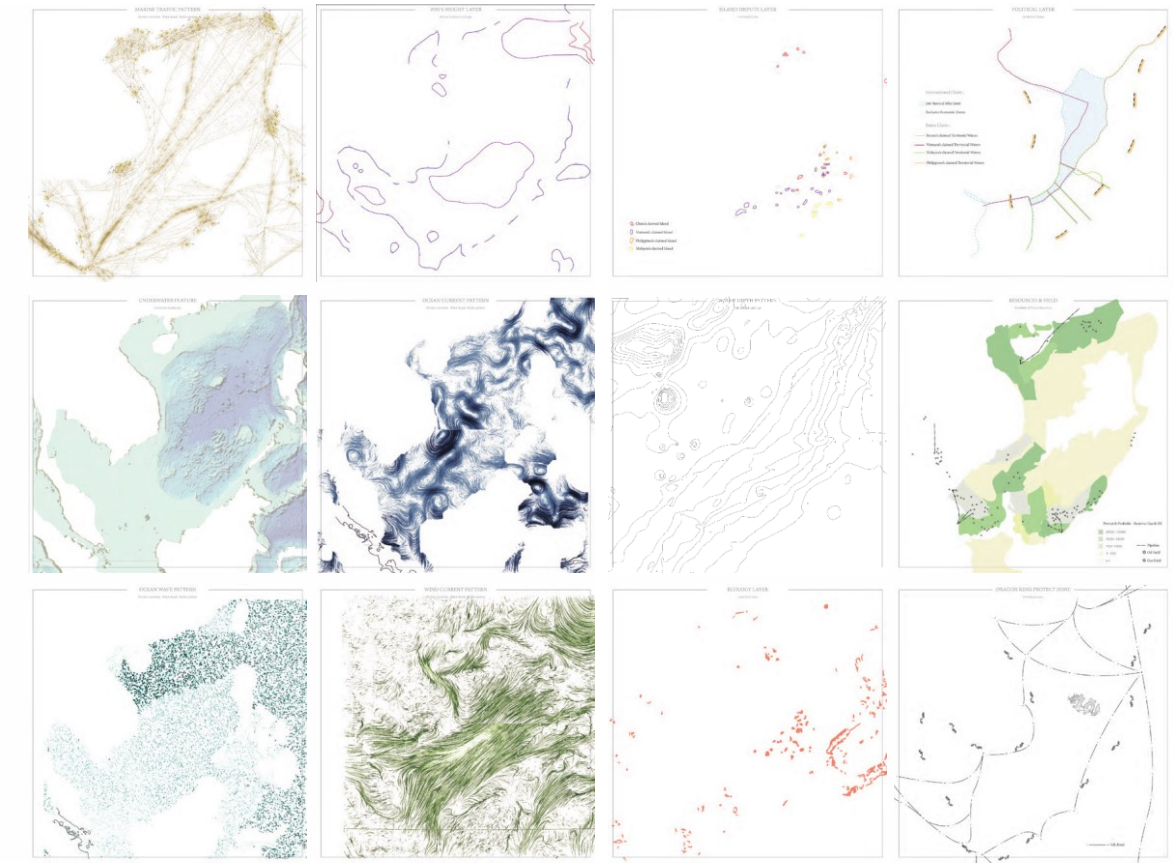

Figure 2: Detailed analysis of aquatic conditions (from left to right, top to bottom); marine traffic patterns, island disputes, political layers, underwater features, ocean current patterns, wave depth patterns, aquatic resources, ocean wave patterns, wind currents, ecological and coral systems and superstitions. *Source: J Chan, 2017.*

The lines of the territorial map and the lineages that construct this - be they cartographic, legal, cultural or architectural - abound in peculiarities that hide their fictions, errors, distortions, erasures, censorings, duplicities, and contestations; becoming de-territorialised within a geo-politicisation of place. Still valid today, the legitimacy of de-territorialised cartographic fictions can be held as evidence

of both a power and dominion that is often founded on the projected basis of a territory, being 'terra incognita,' unknown land. (Figure 2).

Furthermore, as an act of projection, Chan compromises on the economy and apparatus of the 'line' as materialised in the nine actual strokes of the political map. The contestation of all forms of architecture, planning and cartography, as an inscribed line, be it on paper or defining a physical or phenomenological territory is brought to light when each nine-dash line is rescaled to represent a physical territory. The line itself and how it demarcates coordinates, area or volume - as a principle of drawing - carries an inherently land based emphasis. (Figure 3 & 4).

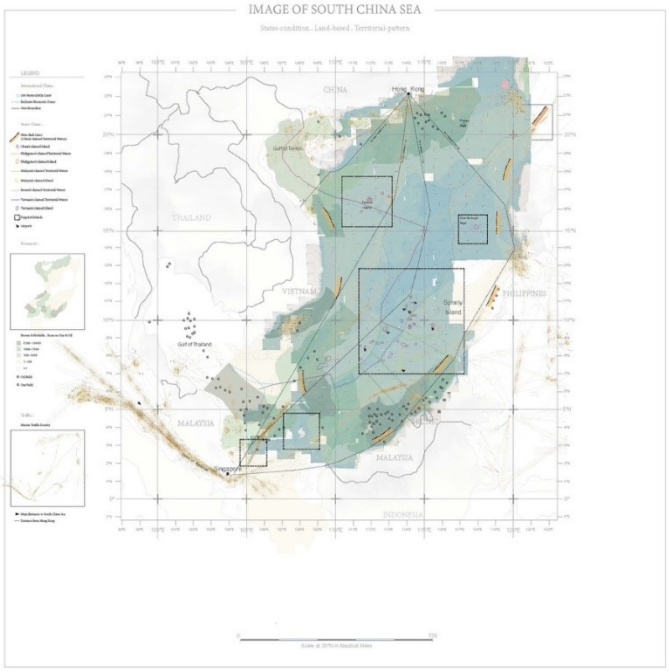

Figure 3: Consolidation of the nine-dash line claim in relations to the political claims made by 5 sovereign domains, traffic density and oceanic resources. Note the importance of the Spratly and Parcel Islands as the only land-based claim made within the nine-dash line area. *Source: J Chan, 2017.*

What is read as the 'wall' on a plan, the 'coastline' on a map, the spaces on either side of the line, a grid, a scale, a name, a 'meshwork' of conventions and codifications ultimately carry the notions of authority, law and power. Until recently with the rise of GPS and satellite systems, the aquatic environment's position and location has always been a more relative process with few stable or fixed referents to locate entities. In Chan's condition of representation, operating between the representational and the real, determined by the intersection of a material world with the imaginary territory of the mind, an ephemeral condition exists. In other words, the specular and speculative world of appearance (*apate*) found in the projective practices of the cartographer and of their imaginings (imago), prevent the map or drawing from being mere pictorial representation. These processes construct a complex territory that defies simple spatial articulation.

4. CONCLUSION

For Chan, the nine-dash lines are not simply 'lines'. They represent an experimental construct, a line-complex, in nine detailed segments wherein he speculatively dwells. With each line, in actual terms roughly 118 kilometres in length, twice the scale of Hong Kong, new propositions become evident. First anticipatory (future focused) aquatic urbanisms seeks to uncover implicit meaning and power that lies behind each segment, respective orientation and given intentionality (Figure 5). Secondly, it projects a critique of the line itself and its fluid environment. As meaning, the projections become a medium of both erasure and synthesis, similar to strategic planning and militaristic intent. The proposed cartographies intentionally obliterate all land derived notions. In this praxis, landscape features, topographical aspects and traces of humanity are repositioned through the 'aquatic' to triangulate

propositions under concepts of 'Red Dragon Anniversary', 'Aquatic Hoberman', 'The Abyssal Buffer Dragon', 'Aquatic Evolutionary Basin', 'Rainbow in the Sea', 'The O Aparon', 'Desalination lines', 'Blue Green Economies' and '404 Cities not Found' (Chan, 2017, p156). In this deliberate act, the terra framework gives way to - amongst others - cultural superstitions, water policy and law, historical and oceanic events, sea currents, wave cycles, sub surface depths, and oceanic ravines. Moreover, the methods of reconfiguring each line consequentially questions the proxy and complexity associated with China's future political intent. One is left to question; has the line become the new model, the mechanism through which superpowers spatialise ideologies in the larger and contentious geopolitical debate? Or, does the singularity of a line, however long, provide enough assurances with the renewed interest in urbanising aquatic bodies. (Figure 6).

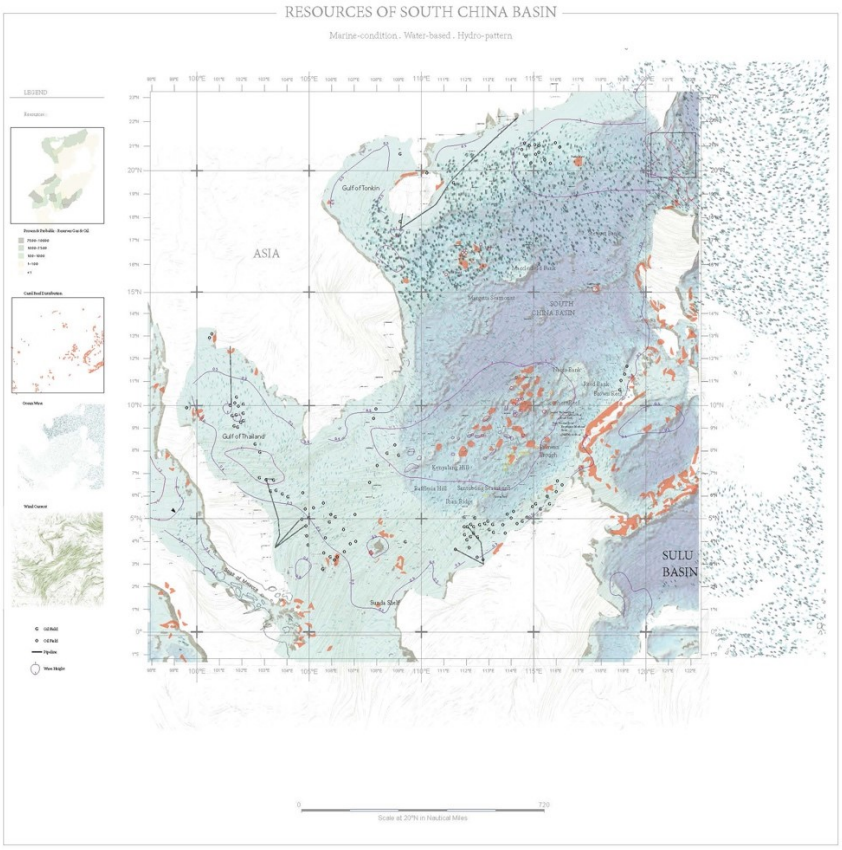

Figure 4: 'Marine conditions-water based hydro pattern' consolidation representative of ocean resources, coral reef distributions, ocean waves and wind currents. *Source: J Chan, 2017.*

Finally, what is at stake remains the questioning of the 'line' itself. The line as an authority in architecture, and its application within aquatic planning. The lines that regulate the professions of architecture, planning, cartography and design, underscore the practices of the architect, planner, urbanist and cartographer and their tools of conjecture. The subsequent manifestation vested in the material world lends authority to the act of demarcating walls, streets, boundaries and lands, easily appropriated to other ends, as in the case of military annexation and territorialisation of spatial ideas. In Alberti's terms, the lineaments, the cartographer's lines, the surveyor's lines, lines of law and war, those of the architect and others - seek to enclose, to articulate a form, a body. Written, charted, drawn and inscribed on a drawing surface, lines carry intentions, emotions and desires. The cartographer who

draws with these many and varied lines, may begin to conceptually, conventionally, metaphorically and in practice inhabit, or dwell within the line they inscribe. Perhaps referring to Borges' beast, sheltering between the map fragment and the desert, this might very well be the cartographer, architect, planner or military strategist. A new 'linear' discourse where planning, cartography and urbanisation comfortably meet in a militarised sphere.

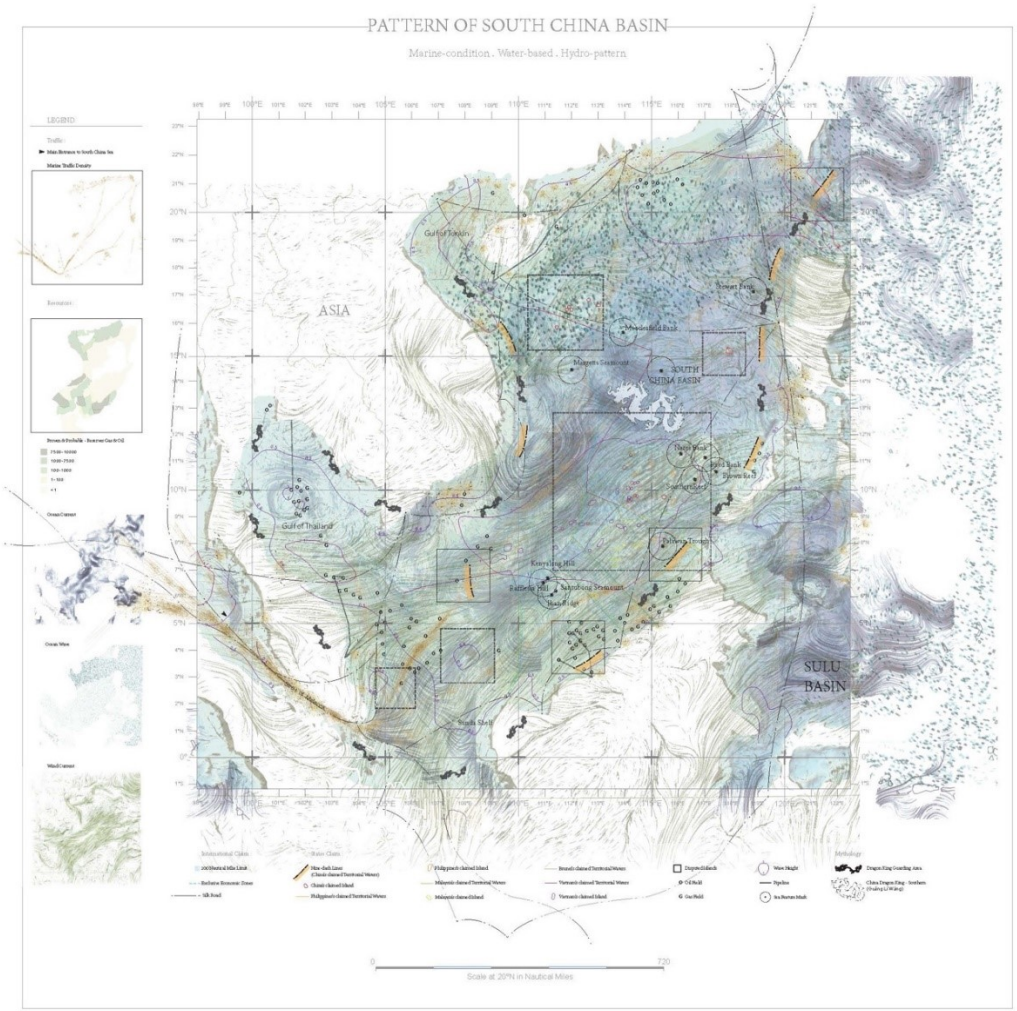

Figure 5: The final consolidation of the aquatic conditions represents all aquatic features and characteristics in one cartographic context. Notice the insertion of dragons, indicative of believe and superstitions associated to specific coordinates of the area studied. *Source: J Chan, 2017.*

ACKNOWLEDGMENTS

The authors wish to acknowledge the Master of Design student Chan Wai Hin - Jacky, on who's research and design work this article is based. Acknowledgement is given to both the student and the Master of Design program of the School of Design, The Hong Kong Polytechnic University, Hong Kong.

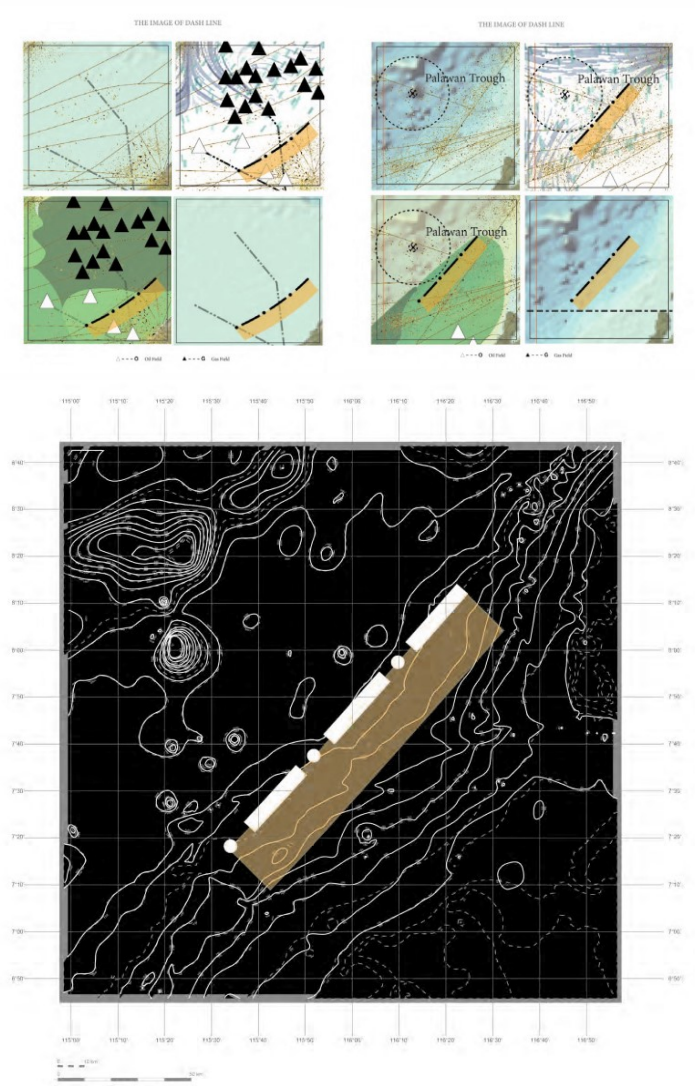

Figure 6: Examining one of the nine-dash lines, to scale. The comparison of the dash is made to routes, natural resources and other variables to examine the validity of urbanization at the designated coordinates. *Source: J Chan, 2017.*

REFERENCES

Austin, G. (2017). *Xi Jinping and Maritime Militarization*. *The Diplomat*. Retrieved 1 July 2017, from http://thediplomat.com/2016/03/xi-jinping-and-maritime-militarization/.

Bakker, K. (2010). *Privatizing Water:* Governance Failure and the World's Urban Water Crisis. Cornell University Press.

Bakker, K. (2013). Neoliberal Versus Postneoliberal Water: Geographies of Privatisation and Resistance. Annals Of The Association Of American Geographers, 103(2), 253-260. doi: 10.1080/00045608.2013.756246

Ball, P. (2016). The Water Kingdom. London: The Bodley Head.

BBC World News. (2017). *China hits back at US over South China Sea claims*. Retrieved 26 Oct 2017 from http://www.bbc.com/news/world-us-canada-38729207.

Beech, H. (2016). Just Where Exactly Did China Get the South China Sea Nine-Dash Line From? *Time Magazine*. http://time.com/4412191/nine-dash-line-9-south-china-sea/

Blackstone, W., Prest, W., & Stern, S. (2016). *Commentaries on the laws of England*. Oxford: Oxford University Press.

Boelens, R., Hoogesteger, J., Swyngedouw, E., Vos, J., & Wester, P. (2016). Hydrosocial territories: a political ecology perspective. *Water International*, *41*(1), 1-14. doi: 10.1080/02508060.2016.1134898

Bruyns, G. (2011). *Urban Dispositif: An Atlas of Spatial Mechanisms and the Contemporary Urban Landscape: A reading of movement as an interpretive device and mechanism of urban form* (PhD). Urbanism: Delft University of Technology.

Bruyns, G., Kousoulas, S., & Sohn, H. (2017). Introduction: Commoning as Differentiated Publicness: emerging concepts of the urban and other material realities. *Footprint*, (16). doi: 10.7480/footprint.9.1.895

Chan, J. (2017). *Aquatic Territoriality Exploring the Future and Potentials of Alternative Urbanisation Within the 9 Dash Line* (Urban Environments Design -MDes). School of Design, The Hong Kong Polytechnic University.

Dodwell, D. (2017). *Asean powers continue to arm-wrestle over China's nine-dash line and its potential abundance of resources, including the seaweed*. South China Morning Post. Retrieved 26 Oct 2017 from http://www.scmp.com/business/global-economy/article/2095097/asean-powers-continue-arm-wrestle-over-chinas-nine-dash-line.

Elden, S. (2013). *The Birth of Territory*. Chicago: The University of Chicago Press.

Girard, G., & Lambot, I. (1993) *City of Darkness: (life in Kowloon Walled City)*. Somerset, UK: Watermark.

Hemming, J. (2008). *Atlas of Exploration* (2nd ed). London: Oxford University Press, p 199.

Holland, T. (2017). *It is time for Hong Kong to get real about water pricing*. *South China Morning Post*. Retrieved 1 July 2017, from http://www.scmp.com/business/article/1293214/it-time-hong-kong-get-real-about-water-pricing.

Ingraham, C. (1998). *Architecture and the burdens of linearity* (Theoretical perspectives in architectural history and criticism). New Haven: Yale University Press.

Jinchen, T. (2017). *'One Belt and One Road': Connecting China and the world*. *McKinsey & Company*. Retrieved 1 July 2017, from http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/one-belt-and-one-road-connecting-china-and-the-world.

Kimmelman, M. (2017). Rising Waters Threaten China's Rising Cities. *The New York Time*. Retrieved 26 Oct 2017 from https://www.nytimes.com/interactive/2017/04/07/world/asia/climate-change-china.html

Maxwell, S., & Yates, S. (2011). *The Future of Water: A Startling Look Ahead*. Denver, Colorado: American Water Works Association.

Meyer, H., Bobbink, I., & Nijhuis, S. (2010). *Delta urbanism*. Chicago: American Planning Association.

Robinson, J. (2013). *Contested Water.* Cambridge: MIT Press.

Sun, A., (2015). *Marginal Culture, Float Villages of Hong Kong*. Capstone Research, (Urban Environments Design - MDes). School of Design, The Hong Kong Polytechnic University.

Swyngedouw, E. (2015). Liquid *Liquid Power: Contested Hydro-Modernities in Twentieth-Century Spain.* London, Cambridge: MIT Press.

von Thünen, J., Hall, P., & Wartenberg, C. (1966). *Von Thünen's Isolated State*. Oxford: Pergamon Press.