ISLAND 38

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A Residential District Island
For 10,000 Venetians
ISLAND 38: A RESIDENTIAL DISTRICT ISLAND FOR 10,000 VENETIANS

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARCHITECTURE

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Venice is in peril; the city is bombarded by a number of realities: an evacuating population, floods, mass tourism, and a sinking foundation. It is the city’s architectural form and urban definition that have prevented appropriate responses to any one of these phenomena.

Rather than continuing the status quo model of cosmetic repairs and facsimiles as a means to preserving the city, Island 38 recognizes the necessity to act boldly, to sideline all historic significance and spectacle found in the city, in order to consider the future. It does so through reengaged island urbanism. Venice, as it sits in the lagoon, is one of many islands that once formed an active whole. This thesis inserts four new islands, defined by separate programs, which, in addition to Venice, to form a robust, polycentric network. Island 38 takes the displaced Venetian population and forms a new island, determined by the demands of the contemporary individual but also by what it means to be Venetian.
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INTRODUCTION

Within the last half-century we find unprecedented shifts in Venice, Italy's demography and natural environment. Immediately after World War II the Veneto region's agriculture and industrial capacity surged and the population of the historic city-island rose, peaking at 150,000 residents. In the late seventies the city was claimed as a World Heritage Site; in addition to the inflexibility of the canal infrastructure and medieval fabric, this move delimited potential growth and urban augmentation. Though tourism has proven a powerful stimulant in many Italian cities, for Venice tourism only exacerbated its decline. Basic necessities such as affordable housing, food, and clothing were substituted by luxury hotels, fine dining restaurants, and fashion boutiques. Without any generational turnover and the city's continuing exodus, approximately 50,000 residents are left on its streets to date. This number is only diminishing. Can Venice be saved as an actual city—defined by a diversity of quotidian life—evident in our understanding of the contemporary city? No, it can't be saved; though answering this question so abruptly implies a pessimism or perhaps even a cynicism, it is, however, merely an honest assessment of the status quo. This thesis unpacks this seemingly simplistic answer, while simultaneously, by design, pursuing a response to a more productive series of questions: Given that Venice is irretrievably lost as an actual city, can it continue as a touristic-city, still worth visiting? Is there an alternative version of island inhabitation within the greater urban whole of the Venetian lagoon? In reconsidering the island, Deleuze describes it as a “necessary minimum” for re-beginning. Island 38 is an optimistic and alternative future, that both engages its environment and forms a new collective. It is a model not predicated upon existing urbaniy but rather understands the strengths of the polycentric whole that is the Venetian archipelago, formalized by the demands of the Venetian-island-dweller and the entropic conditions within the lagoon.

ICONIC CITY: Entrance to the Grand Canal: Looking East, Canaletto
1.0

WHY CAN’T VENICE BE SAVED?
Mass tourism has effectively enveloped the richness of the city's daily life in favor of a more disney-like motif. What's left is an amazingly grandiose and pristine architectural environment, but without a quotidian life to fill it. Cruise ships moor in the morning and depart in the evening, depositing thousands of tourists each day. Vaporettos, the “public” transit system, operate effectively as tour boats. What was part of the everyday is either replaced to support the existing touristic infrastructure or is commodified in a way that adds value to the touristic experience.

As it has done in other Italian cities, UNESCO delimited Venice and the venetian lagoon as World Heritage Site. By eliminating the potential for evolution, effectively freezing the city, Venice has become a museum: a place that actively curates itself through preservation. This in addition to its allure as a highly idiosyncratic setting made it the ideal museum. Thus employing the paradox: Mass tourism destroys the city and mass tourism saves it.

So far, the Veneto region has responded with a surge to the periphery, in this case the mainland. Mestre, Venice's mainland counterpart, has grown out of a necessity to provide what the historic center cannot: affordable housing, megastores, and jobs through its industrial complex and port.
PERPETUATING IMAGE: A tourist taking a picture of a tourist taking a picture of a tourist in Venice.

WET TRAFFIC: Looking down a canal in the Cannaregio Sestiere of Venice.
On average over 60,000 tourists visit Venice each day, effectively substituting the lack of permanent residents for a visiting population. During major cultural events, like the Carnevale di Venezia, these numbers reach upwards of 120,000 visitors per day. By 2020 it is predicted that the total resident population will be less than 48,000.

An actual city cannot exist when dominated by a singular force that prohibits any future potential beyond itself. Venice, due to an obsession over its preservation, its cultural significance, and policies, is, and conceivably always will be, dominated by the forces of tourism; therefore, it cannot be a city. It can, however, be thought of along the lines of a touristic-city, an elaborate resort, or living museum. And we can consider it as such without the stigma associated with The Venetian Resort and Casino in Las Vegas or disney-like environment we think immediately of when discussing theme parks.

Within the framework of this thesis, there is a potential for Venice to perpetuate its serendipitous relationship to the lagoon and maintain its legacy as a surreal architectural environment.

INVERSE CORRELATION. As tourism increases so does the Venetian exodus. Note that cruise ship tourists began to impact the city in the late twentieth century; but it is exponential increase of day-trippers which is most impactful (Source: Comune di Venezia, Service Statistics and Research).
The opposition between ground and water is basic, we obviously prefer to be dry rather than wet. One is “safe” and the other is variable. One requires little to inhabit, a tree or a cave, and the other requires a significant man-made device. It is this opposition which is Venice’s single most defining characteristic. In comparison to this radical environment, the medieval fabric is quite banal. Buildings are built slightly above the water level. There are still piazzas and palazzos, but instead of streets there are canals. In these ways Venice does not deviate much from the traditional Italian city. Rather, the profound difference is the Venetian-island-dweller who understands ebb and flow; whose life revolves around a negotiation, and oftentimes a surrendering, to forces beyond their control.

It is the elegance of dwelling in the lagoon that this project seeks to perpetuate, not the salvation of Venice.

ACQUA ALTA. In 1966 the lagoon waters to date reach their highest level (1.94m) to date.

URBAN SUAVE. In April 1963, the high water in the capital of the Veneto region reaches 112 cm, but this does not inhibit the Venetian-island-dweller from their typical routine.
The average depth of the lagoon is roughly 1.5m in depth. The lagoon is not a tabula rasa upon which islands are placed and free movement is possible. In order to establish connectivity between islands, channels have to be dredged, which determine specific relationships. As the lagoon evolves so do the islands. Its artificial islands are built up to withstand the tides to varying degrees of success. Common knowledge has taught us that nature always wins, entailing a consistent and perhaps futile maintenance of the historic city center. Instead of considering interventions into the lagoon as inherently oppositional, this project prefers an attitude of cooperation that takes into account the existing entropy of the lagoon.

HOLDING BACK THE TIDES. As a means to mitigate the extreme tides the Venice Commune has embarked on a $7 billion venture to construct floodgates at each lagoon inlet; even with recent tests from October, 2013 it is unclear if the lagoon can be controlled.

RUINS. Once a monastery the island Madonna del Monte, not in used for several centuries, is slowly returning to the lagoon.
TIDAL SHIFTS. Tides in the lagoon are semi-diurnal; each day there are two high tides and two low tides. Charted in the graph above are the tide levels at every hour in 2012, showing a maximum tides of up to 150cm and lows of -50cm. Averages of each month depict a cyclical trend from low water levels in the spring to high levels in the winter.
Interestingly enough, Venice’s commodification as a touristic epicenter has facilitated a unique form of preservation. An example of this is the collapse of San Marco’s Campanile in 1902. After nearly ten years of deliberation the campanile was reconstructed in its original form. Not preserving this iconic piece of the city would mark a significant loss. Though the city cannot be saved, tourism is useful in that ensures that the architectural shell can be forever maintained as long as it is still worth visiting.

ICONIC COLLAPSE. In 1902 San Marco’s Campanile fell.

REBUILT. After discussing whether or not to construct a new tower or a replica of the first, San Marco’s Campanile was eventually put back in its original form in 1911.

FACSIMILE. Post 1911, after completing the new campanile, millions of tourists have continued to picture themselves with San Marco’s facsimile as a backdrop.
Venice from its earliest depictions has been conceived as the center within the context of the archipelago, confined within the parameters of the lagoon. Though drawn cognitively, the sixteenth century engraving by Bordone describes, quite accurately I think, the perceptual understanding of Venice as the centerpiece surrounded by an equalized ensemble of parts.

The takeaway here is simple: the lagoon is dominated by Venice; it dies or thrives based on the success of the one piece. In order for the lagoon to act as a resilient system, not dependent on one part, redundancy is imperative. A polycentric system maintains redundancy and also a legible hierarchy within a system without becoming totally decentralized. This thesis acknowledges that the problem of the lagoon is not only architectural or urban but also a territorial issue.

**DOMINATING CENTER**

**CENTRALIZED AND POLYCENTRIC NETWORKS.** Certainly the lagoon relies on the Venice as its centroid, but because it no longer functions as a working center, a shift to a polycentric structure is required.

**COGNITIVE MAP.** First map of the entire Venetian lagoon, Engraved by Benedetto Bordone in 1528.
VENETIAN FABRIC

Venice is comprised of one hundred eighteen islands that have steadily coalesced over time into larger forms. Today these fabrics are disparate and piecemeal, having morphed from their medieval base organization to modified conditions. Because of the ambiguity that exists between these definitions it is perhaps not possible to extract “types,” however we can extract exceptional moments as a way of understanding the whole.

Within these conditions exist a mix-use of functions. If any legibility exists it is only at the scale of the piazza or island edge. What is lost is an awareness of the individual. Like the city’s mass exodus, it is hard to imagine where the city is. Historically, due to routine flooding, an individual’s life was described by storage and workspace on the ground floor while domestic functions were elevated above to higher floors. Today, contemporary lifestyles conjoined with the touristic infrastructure have appropriated this fabric with little success and without a legibility for the Venetian-island-dweller.

ISLAND EDGE. San Trovaso, Dorsoduro, describes a clear preference towards the exterior, while leaving the interior as a sporadic and discontinuous edge.

DEFINED INTERIOR AND EXTERIOR. Within the Ghetto Nuovo, Cannaregio, equal consideration is given to both the interior and exterior definition of the island.

AMALGAM. The Arsenale, Castello, a relatively newer or modified version of the fabric, is defined by axial conditions formed by various parts rather than an island edge or piazza (interior void).
The archipelago itself is comprised of thirty-four heterogeneous islands, typically defined by a range of single-use programs. These programs range from housing, monasteries, asylums, agriculture fields, cemeteries, hospitals, private estates, fortresses, factories, universities, and of course Venice, now a resort island. Historically, the attitude towards island-making has been on an as-needed basis; if there is a programmatic gap, a new island is artificially built; conversely, if the island is no longer useful it is either repurposed/modified or abandoned altogether. But this rationale for urban growth, today, is disengaged.

Venice used to reform itself via the addition of new islands; this thesis proposes to continue the tradition.

VENETIAN ISLAND TAXONOMY. Thirty-four heterogeneous and typically single-use islands, including Venice, and the parts which make the whole (see Appendix).
2.0 WHAT IS THE ALTERNATIVE FUTURE FOR VENICE?
FOUR ISLANDS

In order to bolster the network, studies are performed which move from a centralized network structure to completely decentralized schemes. From these iterations the four nodes study is considered the optimal diagram. Within the diagram a distributed hierarchy is clearly established; simultaneously, the scheme does not delimit the lagoon’s capacity to expand the network beyond these proposed insertions. This project does not assume complete solvency for the lagoon; it instead operates as a model for island expansion. Geometrically these four islands setup a dispersed hierarchy, forming an independent circuit from the thoroughfares to Venice.

NETWORK STUDIES. From an as-is condition to completely decentralized network, this series describes the degree to which added nodes can impact the system (for further studies, see Appendix)
ARCHIPELAGO MASTERPLAN. Islands 35-38 in their respective positions.
ISLAND ARCHITECTURE

As a series, Islands 35-38 formally take on the ideal island shape, that of a disk. The circular geometry gives these islands an omni-directionality, a rotational facade, presenting a consistent frontality from the island to the lagoon and an evenness from the lagoon to the island.

With this in mind, each Island is considered as a separate architectural form, driven based on logics of existing infrastructural architectures as they relate to the water: the dock, pier, pool, and dike. Each of these forms are embedded with an inherent disposition of working with and againsts the water.

RATIONAL FACADE. Contrasting a shape with determined sides and therefore set elevations, a rounded island, is consistently presents itself to the lagoon.

WATER ARCHITECTURES. Islands 34-38 employ architectural strategies derived from four different architectural infrastructure types: dock, pier, pool, and dike.
ISLAND 35. An office park, conceptualized based on the notion of a pool, defines an interior lagoon or microcosm, encircled by an array of towers.

ISLAND 36. The market island acts as a floating platform, or dock, always available for trade and commerce; it rises with the ebb and flow of the tides.
ISLAND 37. Formed as a dike, the commercial center bifurcates the connection between the mainland city, Mestre, and Venice, creating a new ground below the lagoon surface.

ISLAND 38. Island 38, a residential district island, is an alternate future for living within the lagoon.
ISLAND 38. A residential district island for 10,000 Venetians.
**ORGANIZATION**

*Island 38* is organized by a warp and weft. The warp is characterized by rigid fabric of housing piers and towers. It is important to note that *Island 38* is not an autonomous island, it is dependent upon the polycentric nature of the lagoon. Additional functions of the island are built-in, out of necessity; a big-box store and office spaces supplement the housing. Unlike, Venice, critical functions and resources are provided for, through different public amenities, but also through big-box stores and work spaces.

The weft is a counter grain, an artificial ground, comprising different collective functions: civic center, pavilion, square, amphitheatre, pool, athletic fields, and school. As the collective ground, it is designed to interact with the lagoon. The ebb and flow of the lagoon shapes the space of the bar through flooding. A kilometer in length, the bar slopes towards its center. As artificial ground is erased and passage across is temporarily impossible, the exterior pedestrian highway that encircles the islands is utilized. The collective functions of the bar are choreographed to be flooded at varying degree: the market square, located it at bars center is washed daily by the tides; the civic center and school, which, occupy either end of the bar, are rarely flooded. The tides are tool that shape the new collective of *Island 38*.

In order to do things beyond *Island 38*’s defined capacity, one is required to propel off the island and into the archipelago network. It is envisioned that many of the residents will commute to continue to existing hotspots: Venice, Lido (resort island), and Mestre (mainland), but also to the new islands (islands 35-37). In this way the lagoon is activated.
WARP AND WEFT. Two essential grains that form the basic organization of Island 38.

INTERIOR AND EXTERIOR MODES. As the tides change so does the method in which one experience Island 38. In low tides one uses the interior bar, but during high tides the exterior ring is necessary.

ADDED PROGRAMS. Retail and workspace intersected with the event space are the supplementary programs that form the weft. Along the event space, collective programs are activated in flux with time and tides.
THE UNIT(s). Each housing unit is based on a set module, the structural bay. Two bays surround a core, made up of stair and elevator shaft, that leads to the pier level below. Within this system variations are configured from half and full bays. Though basic, this system allows for innumerable combinations, allowing for the evolution of different island residents.
NEW VENETIAN: Looking out across the rows of elevated piers, housing 10,000 Venetians.

ARTIFICIAL GROUND: View from the central public bar at low tide.
PERIPHERAL RING: Exterior perspective of Island 38 during winter months.

SPLIT TIDES: View of the island's public intersection at high and low tides.
CONTEMPORARY CANAL (Page 58-59): View of the new Venetian canals as formed by Island 38’s banded organization.

WATER PARKING (Page 60-61): View of Island 38 at water level, below the housing structures.
3.0 APPENDIX
01 TORCELLO.
Est 500. Size: 0.03 km². Function: Farmland

02 VENICE.
Est 500. Size: 5.15 km². Function: Resort

03 SAN GIORGIO MAGGIORE.
Est 500. Size: 0.10 km². Function: Monastery

04 GIUDECCA
Est 600. Size: 0.54 km². Function: Residential
05 SAN FRANCESCO DEL DESERETO
Est. 600. Size: 0.04km². Function: Private Estate

06 SAN PIETRO DI CASTELLO
Est. 600. Size: 0.06 km². Function: Monastery

07 BURANO
Est. 600. Size: 0.21 km². Function: Residential

08 POVEGLIA
Est. 600. Size: 0.06km². Function: Sanitarium
09 MAZZORBO
Est. 600. Size: 0.25km². Function: Farmland

10 MURANO
Est. 700. Size: 0.93km². Function: Residential

11 LE VIGNOLE
Est. 700. Size: 0.69 km². Function: Farmland

12 SANTA CRISTINA
Est. 700. Size: 13,720 m². Function: Farmland
13 SAN SERVOLO
Est: 800. Size: 0.05km². Function: University

14 SAN LAZZARO DEGLI ARMENI
Est: 800. Size: 30530 m². Function: Monastery

15 SANTA MARIA DELLA GRAZIA
Est: 800. Size: 0.04 km². Function: Hospital

16 SANT’ERASMO
Est: 800. Size: 3.07 km². Function: Farmland
17 SAN MICHELE
Est 1100. Size: 0.17 km². Function: Cemetery

18 SAN GIORGIO IN ALGA
Est 1100. Size: 15.874 m². Function: Monaste

19 SAN SPIRITO
Est 1200. Size: 24.048 m². Function: Barricks

20 SAN CLEMENTE
Est 1200. Size: 0.07 km². Function: Hotel Complex
21 LAZZARETTO VECCHIO
Est. 1400. Size: 25.269 m². Function: Leprosarium

22 BUEL DEL LOVO
Est. 1700. Size: 10.334 m². Function: Private Estate

23 UNTITLED [Hotel Island]
Est. 1800. Size: 0.04 km². Function: Hotel

24 SACCA SESSOLA
Est. 1860. Size: 0.16 km². Function: Luxury Resort
25 SACCA FISOLA
Est. 1900. Size: 0.10 km². Function: Residential

26 CAMPALTO
Est. 1900. Size: 0.04 km². Function: Battery

27 EX POVEGLIA
Est. 1900. Size: 9.084 m². Function: Battery

28 SANT’AMGIELO DELLA POLVERE
29 FISOLO
Est. 1900. Size: 4.974 m². Function: Battery

30 SAN GIACOMO IN PALUDE
Est. 1900. Size: 12.431 m². Function: Battery

31 CARBONERA
Est. 1900. Size: 12.259 m². Function: Battery

32 ISOLA DEI PETROLI
Est. 1950. Size: 0.42 km². Function: Petroleum Storage
33 TRONCHETTO
Est 1980. Size: 0.18 km². Function: Parking Garage

34 BACCAN DI SANT’ERASMO
Est 2013. Size: 0.06 km². Function: Floodgate