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WATER URBANISMS SPANNING THE GLOBE: THE SCHELDT ESTUARY & MEKONG DELTA

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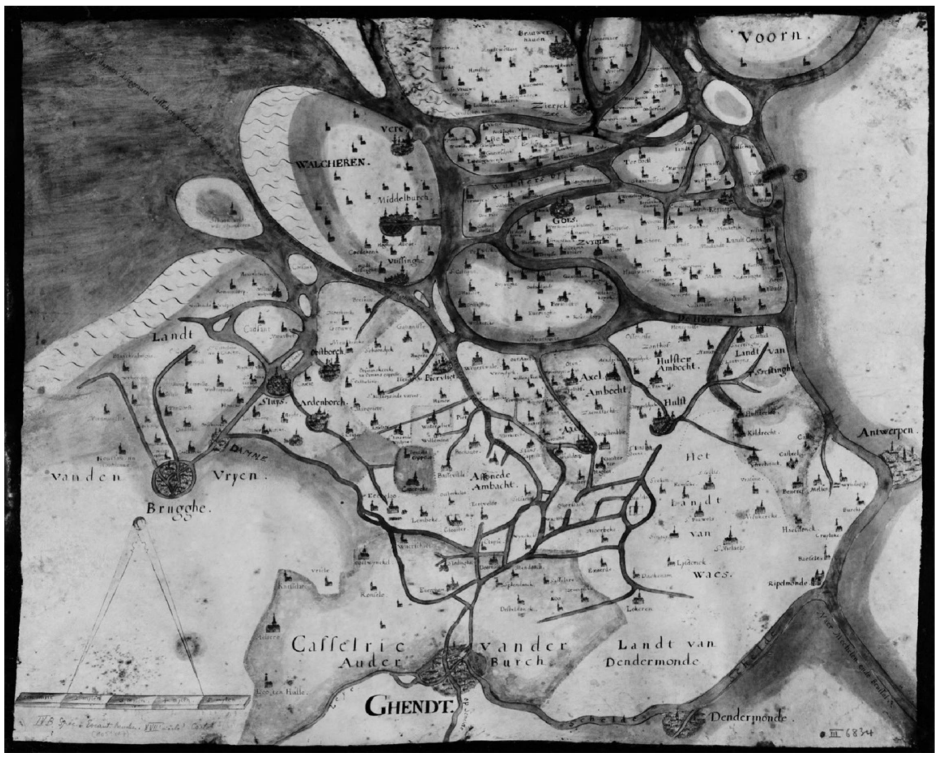

fig.1

Water and mud. Erosion and sedimentation. Profits and perils. Natural and social forces. Water resource management and urbanization. Human culture and civilization requires the control and appropriation of water. The capture, storage, and distribution of water inextricably bind physical and social processes into a thorny relationship between nature and society. Throughout history, the complex cultural and power dimensions of water (also the generosity of past societies when it comes to the access to and distribution of water) has reflected ways in which society is organized. The geography of human settlement is highly dependent upon the distribution of available sources of fresh water, and common sense logic and the interrelation of cities and water also includes the possibility of water as a means of transport and defense. Therefore, water – especially in estuaries and fertile deltas has a long-standing relationship to development, including urbanization (even if paradoxically such fertile deltas are not very suitable for building).

figure 1: 17th century map of Flanders and Zeeland in the 14th century, Carta Flandriae. Escaut. Bouches XVIIe s. Source: KBR (Royal Library of Belgium)

Today's era of rising seas and climate change bring new challenges regarding flooding. A higher frequency of intensive rains, coupled with more impervious areas of territories, generates flow rates and volumes that are larger than the capacity of the conventional, controlled water systems of the now urbanized, managed, and "tamed" estuaries and deltas. There is clearly a need for a paradigm shift that incorporates resilience. Working with the dynamics and logic of nature instead of defending against them seems the key to such a reorientation. A redivision of labor between engineered and natural processes undoubtedly positions ecology as the major organizing basis for urban design. Consequently, the capacities of the existing natural logic of territories will be addressed more profoundly than done previously and, thus, before engaging with engineered solutions. A cross-scalar and cross-sectoral "soft engineering" approach (meaning working with the hard almost irresistible forces of nature) can reduce or mitigate the likely impact of increasing natural disasters, while revised (re)development of cities can be steered by new robust interplays of landscape, infrastructure, and urbanism. Mitigation can become proactive rather than reactive if urban design and planning anticipate risk and exposure designing for resilience by remolding landscapes and (re)constructing settlements so they bend with hazards but do not break.

There are two highly contested territories that are now testing grounds for RUA/OSA to develop "water urbanisms" for the 21st century. On the one hand, they are very different in terms of location northern Europe and Southeast Asia – and development conditions; whereas one is coping with deindustrialization, the other, known as a "rice basket" for its agricultural productivity, is undergoing dramatically fast industrialization. On the other hand, the two territories share what Dennis Cosgrove qualified as "promiscuous landscapes" characterized by the omnipresent simultaneity of differences, and an under-presence

of strong structures and armatures [Cosgrove 2007], and what Terry McGee calls "desakota,"[1] an old peri-urban delta system consisting of a porous mix of urban and agricultural patches [McGee 1991].

The Scheldt Estuary

The transnational estuary of the Scheldt (or Schelde, as it is known locally in Dutch) River (between Vlissingen, the Netherlands and Ghent, Belgium) is a highly contested landscape of incredible diversity. The estuary is divided into the (Dutch) Western Scheldt with marine and brackish ecologies and the (partially Belgian) Sea Scheldt. The Belgian part of the estuary is a single meandering channel, with intertidal areas at the inner part of bends; it is administratively divided into a brackish component, the Lower Sea Scheldt (30 km) and a freshwater part, the Upper Sea Scheldt (77 km). The upper parts of the intertidal areas along the shores of the estuary host fauna and flora-rich salt marshes. The lower intertidal areas are important feeding grounds for birds and resting areas for seals [Marchand et al. 2006].

The Scheldt and its numerous tributaries are rain-fed and tidal. Over decades, the river has been significantly transformed: canalized for transportation and equipped with quays. Dikes have been constructed to protect inhabited and agricultural areas. The once meandering river landscape became a designed landscape – a highly controlled, artificial, and engineered landscape with sluices, cutoffs, revetments, overflow channel floodways, locks, gates and jetties. Consequently, the surface

1 McGee, a geographer, first used the term desakota (coming from Bahasa Indonesia, the word is an amalgam of kota for town or city and desa for village) to describe the regional phenomenon of the hybrid spatial condition of Jakarta's periphery. McGee's research showed that the zperipheral regions around the extended metropolitan region of Jakarta (Jabotabek) were not amenable to the conventional models of urbanization – whereby suburban development from a metropolitan core penetrates into agricultural hinterland. Rather than drawing a population from rural areas to the city, Jakarta's in-situ urbanism was in fact a reinvigoration by industrial (or post-industrial) activities of already densely populated agricultural regions. A spatially fragmented peripheral settlement pattern resulted, with the overlapping of functionally independent entities, materializing in traditional agriculture existing alongside industry (capital intensive and cottage industry), entertainment (film, themes parks, and golf courses), retail (malls and strip shopping), and housing (from squatter housing to gated communities).

area subject to tidal fluctuations has decreased and, subsequently, flooding has increased. In the meantime, urbanization has invaded the flood plains,[2] and is expected to continue to do so. Permeable surfaces decrease as concrete pervades the territory.[3] In 1976, a major flood in Rupelmonde, triggered by the coinciding of strong northwesterly storm winds and the spring tide, which impels extra seawater into the estuarine funnel, prompted the Belgian government to develop their "Sigma Plan." Originally, this conventional plan was to elevate dikes, construct flood control areas throughout the estuary, and build storm barriers at the mouth at Oosterweel and Overschelde. Over the past two decades, the plan has expanded and been fine-tuned to include a more integrated water management approach and to consider the wider estuarine ecosystem and the effects of dredging and harbor expansion on the environment.

Beyond the ecological richness of the estuary, three distinct landscape urbanism morphologies can be recognized, each with its own dynamics, rhythms, and individual characteristics: the natural landscape, polder landscape, and the heavily infrastructured harbor landscape. The most visibly dynamic is the downstream natural landscape, which changes with tides and seasons. It is where expanses of open water, creeks, marshes, dunes, and saltwater meadows seemingly merge land and sea. The polder landscape with its characteristic dikes drains the inherently wet territory and transforms the region, polder by polder, into a productive agricultural landscape with its network of agricultural domains, villages, and hamlets. Polders are flat and are usually completely open. Dikes mark the limits of each polder and form the horizon in these desolate landscapes. Finally, the industrial port landscape follows an economic and engineering logic and has – throughout its long history – been driven by hectic investment cycles and its interdependent system of quays, locks, canals, railway lines, and road systems. Today, the estuary is of economic importance as a major shipping artery, hosting one of Europe's largest ports.

2 According to Corine Landcover and AGIV data, in 2008, 23% of Flanders built area was in naturally floodable areas.

3 By 2030, 13–17% additional land area in Flanders is expected to be impermeable due to processes to urbanization (2000–2030 Urbanization scenario, Milleuverkenningrapport 2030).

The contradictions between these three landscapes have always been at the core of intense disputes and battles between ecology, engineering, and the economy, and between opinions (and related interests) innate to these domains: an agricultural versus port economy; the economy of recreation versus that of industry; abstract engineering that opposes natural forces versus engineering that works with the forces of nature; and nature versus culture (open landscape versus urbanization and suburbanization). Of late, the trade-off between "nature compensation" for port expansion and modernization has meant that the landscape that is the worst off is the polder landscape. It suffers the consequences of European regulations and trade-offs between eco-preservationists and the land-hungry port authorities and industrialists. On top of this, the predicted consequences of climate change are requiring the further stabilizing and raising of dikes and quay walls to deal with flooding.

The Mekong Delta

The Mekong Delta spans the southernmost border between Vietnam and Cambodia and covers approximately 5.9 million hectares (with 4 million in Vietnam). The Delta is shaped by the Gulf of Thailand to the southwest and the East Sea to the southeast; daily tidal flows and ebbs reach 100 km upstream and are responsible for the Delta's extreme flatness. Its average elevation rises a mere meter per one hundred kilometers. Its geology and topography greatly affect irrigation, transportation, and the tidal pulls from the Gulf of Thailand and the East Sea vary and create a complex hydrological system with shifting currents in the natural rivers and man-made canals. The 4800-km-long Mekong River has an enormous sediment discharge – the same as that of the Mississippi, 85% of that of the Yangtze River, and 12% more than the Amazon [Syvitski et al. 2005]. The Delta begins when in Cambodia the Mekong meets its main distributary on its south bank, the Bassac River. In Vietnam, the Mekong is known as the Tien River and the Bassac as the Hau River.

The hydrologic regime of the southern Mekong Delta has been dramatically altered. Efficiency and agricultural yields became the prerogatives for re-shaping the territory. In the early feudal era, the swampy, half liquid, half stable area of the Mekong Delta was transformed into fertile plains for wet paddy cultivation. Settlements developed linearly, following the alluvial, non-salted highland banks of rivers and canals

fig.2

figure 2: Mekong Delta, Map of Indochina made under the Ministry of Foreign Affairs and Colonies, Paris 1895
Source: Library of Congress

formed by sedimentation. Villages advanced following the incremental construction of the indigenous canal system. Unlike other parts of Vietnam (where feudal urbanization regulations were very strict) and as an incentive for the cultivation of new lands, the population of the south was granted free land. Markets were established along the natural waterways. Prosperous floating markets burgeoned on the inter-connected waterways. Stilt houses occupied thresholds between water and land. A network of market places, transient stations for traders, service stations

for the repair and maintenance of boats and the supplying of fresh water, and rice-processing areas were established. A water-based civilization took hold with a society living from the water and on the water.

Prior to 1880, the total cultivated area in Cochinchina[4] was estimated at 552,000 hectares. Between 1880 and 1937, irrigation increased this to 2,200,000 hectares [Hickey 1964:15]. From 1890 to 1936, 1360 kilometers of main canals and 2500 kilometers of auxiliary canals were dug by a combined effort of machines and manual labor [Nguyen Q. V. 1996:46]. French engineering dramatically increased the scale of the organic, indigenous canal system. Control of nature seems now to prevail over the previous system, which worked more though an iterative process of adaptation to circumstances. Colonial impositions brought traumatic change and created a complete rupture of traditional Vietnamese land management by Mandarins. The French sought to "open up" the wetlands and forests of the Delta instantly to the flow of people and goods - contrary to previous organic development of agriculture where flood protection and salinity intrusion control were of paramount importance in determining hydraulic works [Miller 2006:175]. Modern technology coupled with the impersonal irrationality associated with competitive market-driven economics radically altered the centuries-old way of production and the nature of the territory itself.

For the inhabitants and the productive landscape of the Mekong Delta, water has been and will always be a friend and a foe. Seasonal flood regimes form the basis of the productive cycle in the territory. However, there are already changes that have occurred due to climate change. Farmers are reacting to them with fish-rice rotations and new crop varieties, and the government has developed a series of decrees and commissions – including a National Target Plan to Respond to Climate Change in 2008. In 2009, the Mekong River Commission developed a Climate Change and Adaptation Initiative to initiate cooperation on the issue, since a number of countries are also pursuing hydroelectric power and dam building, which will clearly affect the hydrology of the river, particularly for downstream Vietnam.

4 As South Vietnam was known under the French from 1862–1954

Landscape Urbanism Strategy 1: Braille Urbanism

"Braille urbanism" refers to the specific, well-chosen, and measured elevation of topographic articulations across a territory. To date, the essential form of water control in the Belgian Estuary and the Mekong Delta has been the "Dutch dike" strategy, which involves the construction of encircling dikes for settlement, flood control or prevention of sea water intrusion to provide the favorable freshwater conditions for agriculture" [Biggs et al. 2009: 208]. In recent years, there have been a number of water projects that deviate from this business-as-usual and hard-engineering approach towards soft-engineering, and where slogans such as "space for the water" and "room for the river" have taken precedence. Braille urbanism subverts the generic dike logic to create a resilient landscape as if it were a Braille text, simultaneously sensitive and solid, creating relief in the plain to stop water flows in certain places and allowing water to move freely elsewhere.

Beveren North, the first Belgian area of the Scheldt Estuary, has been controversially slated for "de-poldering" as part of the Sigma Plan, as well as for "ecological compensation" for the enlargement of the Port of Antwerp on the left bank of the Scheldt. Beveren North, an intriguing assemblage of historic and more recent 19th century polders, is sandwiched between the submerged land of the Saeftinge Nature Reserve (in the Netherlands), a nuclear power plant, and the seemingly ever-expanding Port of Antwerp. Its de-poldering will result in the creation of nature at the expense of agricultural land, countryside, and urbanity. The project[5] sought to re-establish a constructive interplay between three different existing landscape ecologies and create spatial conditions to allow a relevant future – be it an exceptional one – for existing villages. Manipulation of water levels and of the various connections (permanent and temporary) to the tidal river have generated three distinct types of re-naturalized landscapes, ranging from saltwater meadows and creeks (tied to the rhythm of the tides), to constructed wetlands

5 The project (1150 hectares) was the result of an invited competition in 2007 and developed with the municipality of Beveren in 2008–9 by OSA/RUA (Kelly Shannon, Bruno De Meulder and Cathérine Vilquin with Naveen Kulshreshta, Hubert Gulinck, Charlotte Hvidevold Hystad, Katrijn Persoons, Ruth Byloos, Oana Bogdan)

fig.3

figure 3: Existing & Depoldered Beveren North: The poldered landscape includes a productive agricultural landscape with fields and a network of agricultural domains, villages, and hamlets as well as a nuclear power plant. The de-poldered landscape will comprise three water landscapes: tidal, brackish and fresh. Source: OSA/RUA

figure 4: New Landscape Morphologies, Beveren North: The project develops three water landscapes (salt marsh, brackish water and fresh water) that each, in turn spawn distinct ecologies and experiences of the territory. Source: OSA/RUA

(with brackish water), and to artificial fresh water bodies. The creation of such a diversity of conditions was intended to insure a rich variety of vegetation and habitats. The new natural system, when coupled with the re-structuring of infrastructure, has defined areas for restricted access, increased access, and even no access at all. Where accessibility has been decreased, nature has taken over, and traces of earlier occupation are left to the mercy of nature. In the past, dikes were for the Dutch a cultural high point, an instrument of polderization, yet one which only created sameness and a monotonous flat agricultural landscape, a boring multiplication of grazing land for cows. In the de-poldering project, dikes are paradoxically turned into instruments that articulate different natures, generating a multiplication of bio-variety and, instead of creating the vast openness of polders, actually defining a cozy nesting and intimacy of environments by enclosing the previous villages into “chambers” by way of dikes as earthworks. Whatever the role of the new dikes might be, they do not – as dikes usually did in the past – define ex novo a territory. In this case, the new dikes are like a new line in the inter-textual

fig. 4

oeuvre that the territory has become. At first sight, this assemblage of old and new might be considered the European type of approach that André Corboz advocated with the notion of the palimpsest. In hindsight, the improper combining of factual dikes, new hybrid dike types, and earthworks of different kinds and sizes might rather be the application of Cosgrove's notion of promiscuous territories, brought to a new level.

In Cantho (population 1.2 million), located in the heart of the enormous floodplain of the Mekong Delta, at the confluence of the Hau and Cantho Rivers, the revision of the city's master plan to 2030[6] allowed for the fundamental rethinking of its conventional urban development processes. Cantho's expanding hybrid territories have spatial limitations due to the previously mentioned intermingling of built-up

6 Cantho Masterplan Revision to 2030 (140, 200 hectares) was carried out by OSA/RUA, WIT Architecten, LATITUDE (project team: Kelly Shannon, Bruno De Meulder, Guido Geenen, Cati Vilquin, Phebe Dudek, Daan Derden, Annelies De Nijs, Remi Van Durme) with SIUP (Southern Institute of Urban Planning), Ho Chi Minh City, Vietnam for the Cantho People's Committee, 2010–2012, 140, 200 hectares.

fig.5

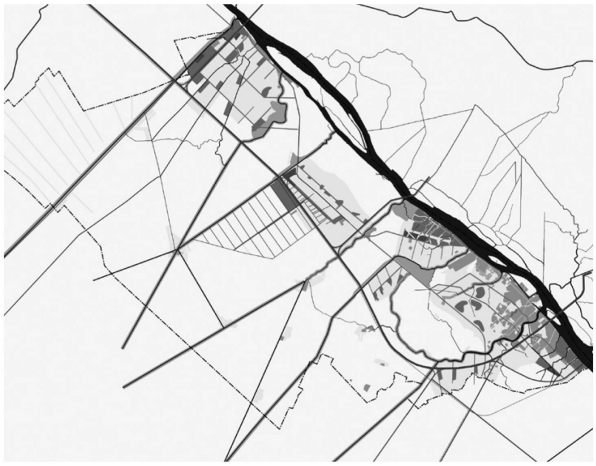

fig.6

environments and agricultural land. This desakota condition is intensified through the massive multiplication of conflicting claims on the territory (urban functions versus agriculture that require natural or controlled floodplains, location of wastewater treatment infrastructure, water management functions versus ecological purposes). One of Cantho's greatest threats is the loss of absorptive low lands, which have been inadvertently filled (with up to 2 meters of soil) to support urban development. The water absorptive (and retentive) capacity of the land is diminished as the amount of paved areas explodes – with side-effects of faster rainfall run-off and a lowering of the natural groundwater table. Water quantity problems are mainly related to hydrological extremes: high flow discharges and flood risks along rivers and urban drainage systems, and low flow discharges along rivers. Ultimately, the interplay between hydraulic, ecological, agricultural, and urban uses of space is far from constructive, and everything but optimal. In addition, Cantho's entire drainage and sewerage system is over-stressed and its integrity jeopardized. Encroachment of water-bodies alters ecologies and inevitably affects the severity and frequency of flooding, not to mention an increase in environmental degradation and pollution.

Soft engineering approaches are proposed in order to develop Cantho as a resilient and adaptable city: a structural interweaving of hydrology, soil conditions, and a renewed urban morphology that articulates topography. In short, it inscribes itself within the existing logic of the territory. The Delta's agricultural territory is basically generated through the inscription of canal systems – pre-, post-colonial, and French – in the natural water elements. Rivers and canals almost interact as warp-

figure 5: Cut & Fill Balance, Cantho: New urbanization is to be built on high-land platforms in both the rural and urban areas of Cantho. Their geometry is partially informed by the pre-existing conditions of the landscape, while simultaneously accommodating and shaping tissues that rationalize and modernize the rich native building traditions.
figure 6: Water Network, Cantho: An extended water network completes the existing complex system of waterways and canals and (re)calibrates the relation between porous and (non) absorptive land. Flood retention basins, water purification and storm-water drainage swales and channels are the main elements plugged into and complementing the already complex system. Source: OSA/RUA, WIT Architecten, LATITUDE

and-woof to form a dense "water fabric" that not only frames, but in a certain sense literally creates a mosaic of (fertile and disclosed) lands out of the muddy plains of the Mekong Delta. The master-plan revision constructs the future structure of Cantho on similar lines: interweaving a green-blue structure that forms a robust and productive canvas that subsequently allows the weaving of a resilient urban structure. The green-blue structure defines the counter-figure for "urban platforms" (on raised artificial land) as the backbone of the city, which inscribes itself into the natural water structure and soil conditions. In other words, the structuring of the landscape is the foundation for a renewed territorial form. However, this form is not superimposed. On the contrary, a "soft engineering" approach is addressed as a way to work with the forces of nature and exploit natural conditions in order to reduce or mitigate the likely impact of today's increase in natural disasters, while the revised development of the city will then be guided by new interplays of landscape, infrastructure, and urban development.

What appears on the urban scale to be structures, are on the territorial scale only lines, dots, and signs – components of the new Braille urbanism that develops the inter-textual oeuvre that configures itself, slowly but surely, out of the Mekong Delta mud. The primitive, simple, and precise articulation of topography becomes an urban design tool as powerful as it is precious. Sectional richness is explicitly designed (taking the sharp shape of monumental platforms) and the landscape, infrastructural design (in profile and longitudinally), building edges, and utilities below surface are to be built concurrently and thereby form a new system of transport, promenade, utilities, and power. The highland

network of roads (existing and planned) can be off-set by the lower-land waterways/plains and medium-land level vegetation meshes, in a system of organized decentralization. The expanding city and its periphery can be intentionally planned as a juxtaposition of centers with different characters and scales that result from the specific interplays they orchestrate through the infrastructural net and the natural (green and blue) systems, topographical differences, and related soil conditions and, finally, with the programmatic destinations allocated to them. This will allow urbanization to occur where infrastructure (including high-land platforms for structures) is organized. An intermingling of urban and rural activities across the territory's networks of water and roads can not only maintain the region's productivity, keep the ecological balance in-check, but also rephrase, in Braille and on a larger scale, the "desakota" identity of the region.

Landscape Urbanism Strategy 2: Civil Hijacked by Civic

In Antwerp and Cantho, flood control through civic design together with civil engineering sought to explicitly expand the public realm. In Antwerp, the historic embankment of the Scheldt needs to be made 90 cm higher. The embankment coincides with the 19th century quays along the Scheldt that became dysfunctional as the harbor relocated downstream decennia ago. Their decommissioning went hand-in-hand with a continuously increasing appropriation of the quays by the city. They became a zero degree public space: free parking, free space for all types of informal, spontaneous, and ephemeral activities. In the ongoing project,[7] the raising of the embankment is seen as a great opportunity to once and for all recognize and develop the ambiguous status and equally generous character of the quays as public space (6.7 kilometers long and 100 meters wide). The new embankment will protect Antwerp from the tidal fluctuations of the river (with a difference of 5 meters

7 The project, initially entitled "Quays as Keys" which won an invited international competition in 2008, is being developed by Joao Nunes, overall coordination; landscape and urbanism, PROAP (Joao Nunes, Carlos Ribas, Ana Henriques, Bernardo Faria, David Fonseca, Marta Palha, Helena Palma, Veronika Gschirr); architecture, WIT Architecten (Guido Geenen, Yuri Gerrits, Maarten Deconinck, Jonas Bensch, Phebe Dudek); project management D-RECTA (Andrea Menegotto); technical design team, TECHNUM-TRACTEBEL ENGINEERING (Ronald Lambrechts, Astrid Laemont, Inge Nackaerts); SBE-Raadgevende Ingenieurs Studiebureau voor Bouwkunde (Gerrit Feremans).

daily) and set out the boundaries in the juxtaposed existence of river and city, nature and culture. The quays form a third term in between the two opposed categories.

The project being developed emphasizes and renders permanent the ambiguous status of the "space between spaces" of the quays; although latently present and characterizing the quays of today, the embankment is employed as a boundary to articulate the staggering status and quality of the space between spaces. In that sense, the absurdity of the raised embankment (presently 1.35 meters) is considered a blessing for Antwerp, for it cannot be the idea to consume the quays and make them into another urban space with an over-crowded program and illusory results. It can't be the intention to make the quays (just another) part of the city. The goal should rather be to get the most out of the investment – so that the quay area can develop its role as a refuge in Antwerp to the fullest – by granting the embankment a double function: protecting the city as a civil structure and marking the frontier between city and riverside as a civic element. This double role is the essence of the quays project in Antwerp: making use of civil infrastructure to create civic space. The design explores the possibilities in order to subtlety shape the quays in such a way that they can fulfill their role of refuge in a manner that is superior to what was done previously. The design explores the possibilities thematically, in plan and in cross-section, and offers a toolkit of methods to deal with the quayside and the embankment.

In Cantho, design has explicitly addressed climate change, flood control through more civic design combined with civil engineering, and sought to expand the public realm in an era when public space has been neither budgeted for nor been a priority of governments. As explained above, the proposition employs the notion of Braille urbanism – small and subtle elevations articulate different levels. A specific role in this Braille text is evidently reserved for the civic spine and the urban platforms that are amalgamated with it to form the safest level of the city. As such, two conditions are safeguarded from flooding in this rapidly urbanizing landscape, which otherwise, as in the past, would be living with regular (and now intensified) flooding.

The civic spine crosses the entire 60 kilometers of the city and is constructed as a dike. It forms the main land communication line whose functioning is always guaranteed. It connects and collects almost

fig. 7

figure 7: Water Barrier as Civic Space, Antwerp: Tides and seasonal rhythms resonate in the public appropriation of the water barrier as a civic space. Source: PROAP. WIT Architecten, D-RECTA, TECHNUM-TRACTEBEL Engineering, SBE-Raadgevende Ingenieurs Studiebureau voor Bouwkunde

figure 8: Civic Spine through the City & Open Landscape, Cantho. A typical section through the new urban area reveals its asymmetrical nature, while in the northern open landscape the public transport lanes are elevated to allow passengers clear views to the landscape. Native fruit trees align different sections of the spine, giving identity to the various components of the trajectory. Source: OSA/RUA, WIT Architecten, LATITUDE

all the civic amenities of the city, and anchored on it are platforms that can host the most crucial programs such as hospitals and schools, etc. Its civic quality is, however, not only derived from the programming; it is also designed as a civic element in itself. As the (safe) spine of the city, it evidently is given a size that transcends the pure functional requirements of a road. It is a place of assembling in times of heavy floods. It is not necessarily over-dimensioned, but provided with the capacity to accommodate long-term growth (integrating public transport, integrating service lanes when crossing central urban areas, etc.) and to deal with uncertainties; the majestically sized spine also incorporates public space that is not programmed but open to a variety of appropriations on different scale levels. The civic spine forms, in the end, the essence of Cantho's future public space. This role evidently changes along its trajectory while passing the harbor-city, historical Cantho, the new town of Omon, or its industrial town Thot Not. This translates itself into a slightly shifting nature of the spine: from parkway to main boulevard to waterfront boulevard in the west of Omon. The civil infrastructural instrument simultaneously becomes, due to their oversized and underprogrammed nature, a crucial civic element of the city. Aren't these

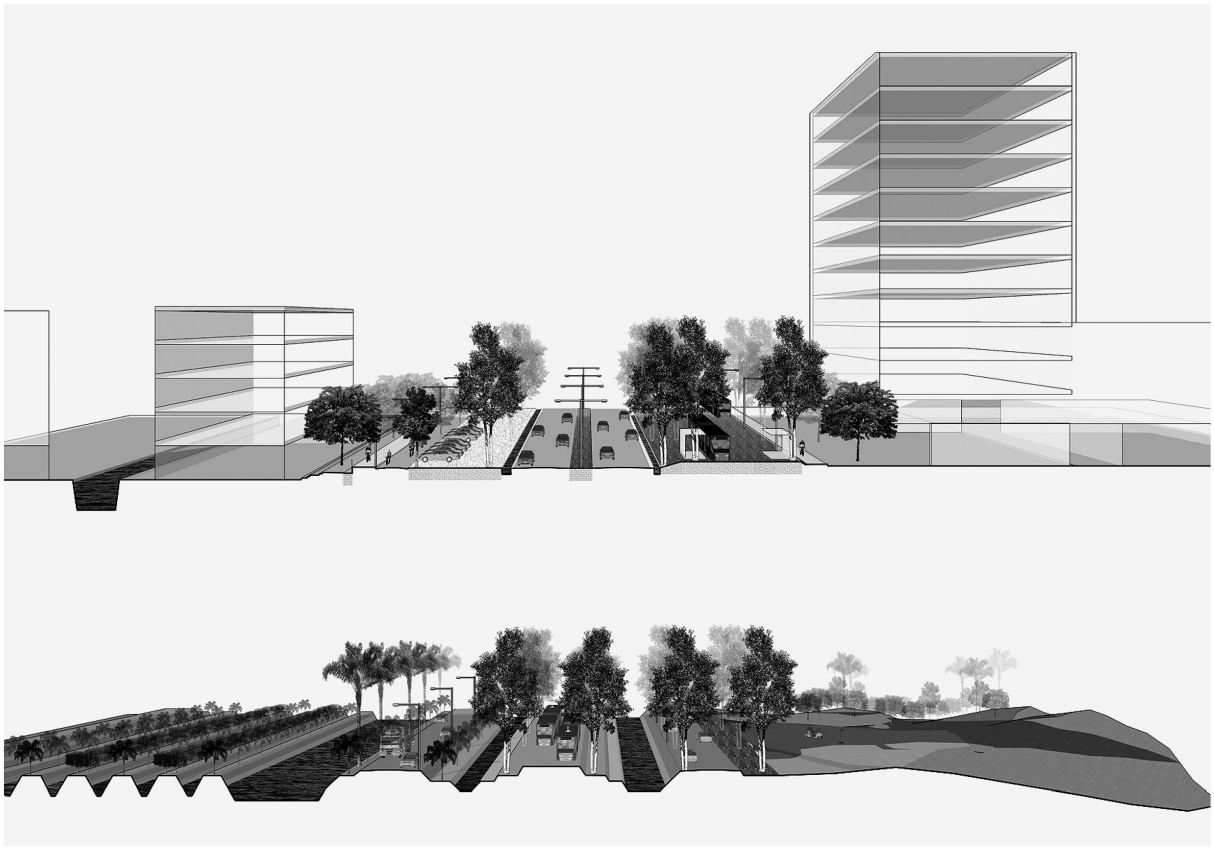

fig.8

types of spaces, open to a variety of contradictory practices, what form the essential public spaces of the city? Civil becomes civic without preconception. Isn't that a definition of urbanity itself?

Landscape Urbanism Strategy 3: Squadrons of Platforms

In the low-lying liquid landscape of South Vietnam, the creation of a land-structure/infra-scape was the basis for new industrial and housing development. New interplays between ecology and economy, and productive and consumptive landscapes were developed via topographical manipulation and programmatic overlays. In both the Cantho revised master plan and a proposal for the port city of Hiep Phuoc,[8] just edging

8 The Hiep Phuoc project (3700 hectares) was an invited international competition in 2007 developed by OSA/RUA + WIT Architecten + PROAP landscape architects in collaboration with the Vietnamese Institute of Urban Planning [VIAP], Hanoi. The project authors are Kelly Shannon, Bruno De Meulder, Janina Gosseye, Bieke Cattoor, Matthew Neville [OSA/RUA]; Guido Geenen, Roeland Joosten, Yuri Gerrits, Brecht Verstraete [WIT Architects]; Joao Ferreira Nunes, Carlos Ribas Da Silva [PROAP]; Thi Kim Ngan, Nguyen Ly Hong, Ho Bac, Dinh, Quoc Thai, Vu Van Nga, Ha An, Pham Thi Hue Linh, Nguyen Minh Phuong, Nguyen Thanh Tu, Ha An, Pham Thi Hue Linh, Sam Minh Tuan, Nguyen Thi, Thu Phuong, Do Xuan Anh Vu, Tran Tuan Anh, Hoan Long, Luu Quang Huy, Do Kim Dung, Tran Anh Tuan, Hoang Tan Truc [VIAP].

the Delta at the southern extents of Ho Chi Minh City (HCMC), the urban development strategy works in tandem with strategies of environmental protection and ecological preservation to mitigate adverse impacts on social welfare activities in the area. Hiep Phuoc is imbued with a unique ecology and economic value for the region. It is strategically located at an important hinge between the southern extents of metropolitan HCMC and the East Sea. Its Soai Rap River tidal flats estuary is not only ideally suited for the relocation of the city's port activities (destined to be a general port and the city's main container/passenger port), but also boasts the majestic Can Gio Mangrove Forest, a UNESCO-recognized biosphere reserve.

The Hiep Phuoc strategy steers urban development through manipulation of the ground plane, an artificial topography – of roads/rails/dikes, water purification and retention basins, and platforms of various

fig. 9

heights – and a process of evolutionary transformation. The proposal carefully considers the context and works simultaneously with both macro- and micro-economic and ecological concerns to develop densities and programs accordingly. At the regional scale, the envisioned port development creates a spatial sequence of a built/non-built rhythm along the Soai Rap River, accentuating its exceptional location and following the River's bends. Port logistic platforms alternate with afforestation sites, thus stabilizing the coast and providing protection against erosion, oil spills, and storm surges. Along a proposed HCMC Parkway (with public transport from the Tan Son Nhat Airport through the existing city and to the proposed urban port on the Soai Rap River) urban areas are created as elevated platforms. A cut and fill strategy, protection of sensitive eco-systems, and creation of mineral platforms for urbanization

fig.10

figure 9: Land–structure & Infra–scape, Hiep Phuoc: A fixed master plan is avoided. Instead transport infrastructure and safe, highland platforms are embedded in the landscape. Source: OSA/RUA, WIT Architecten, PROAP

figure 10: Hybrid Worlds, Hiep Phuoc: Social congestion at the urban port enlivens the city while monkeys in the mangroves are not far away. Source: OSA/RUA, WIT Architecten, PROAP

work carefully with the existing topography, soil characteristics, and water conditions. These artificial "earthworks" are ground preparation – filled with soil dredged from the Soai Rap River – built to accommodate investment commitments at various moments in time.

In hindsight, the three landscape urbanism strategies, by working with forces of nature rather then against them, by (over) articulating the existent geomorphological and hydrological conditions, by stimulating the civic to act as a parasite on the civil, by extruding a Braille text out of the mud instead of organizing a tabula rasa, not only marks a paradigmatic shift from hard engineering-driven urbanism to a soft engineering-steered water urbanism. It also dialogues with the fundamental character of the sites in question. It doesn't make new landscapes, but rather rearticulates the promiscuous (and slightly subversive) landscapes with their typical desakota and other surrealistic elements like reversed dikes. Iterating between engineering and bricolage, such a dialogue between existing and new, between challenge and opportunities, between acceptance and subversion, creates a new landscape logic that one can only hope even the blind will be able to easily read.

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