

MONOLAB

2	Infrabodies, Rotterdam NL	<i>fusion</i>	1998
3	Delft South Station, NL	<i>micro body</i>	1999
4	Compressor, Rotterdam NL	<i>exponential urbanism</i>	1999
5	Breda Sands Infrascape, NL	<i>urban vague - beyond representation</i>	1999
6	Leidsche Rijn City Center, Utrecht NL	<i>programmatic blending and absorption</i>	2000
7	TBOG-law	<i>open areas should remain unbuilt</i>	2000
8	Villa XXX, NL	<i>jaws versus nesting</i>	2001
9	Body House, Rotterdam NL	<i>predator</i>	2001
11	Zoetermeer Africa road-zone, NL	<i>freedom driven urbanism</i>	2002
12	A12 long term, NL	<i>cross vision</i>	2002
14	House for E, Eindhoven NL	<i>no style: beyond taste</i>	2002
15	Shipping Valley, NL	<i>retro-active polders</i>	2003
16	Trigger Happy Urbanism	<i>comments on mutations as shifts</i>	2003
17	Hammerfest Arctic Cultural Center, Norway	<i>urban web space 1 & 2</i>	2004
19	Performing Arts Center	<i>culture villa</i>	2005
20	Arab Cultural Center, Washington DC USA	<i>islamic web versus american grid</i>	2005
21	Coney Island Parachute Pavilion, New York USA	<i>deus ex machina</i>	2005
22	RZG Urban Landscape, NL	<i>a man-made archipelago</i>	2005
23	Cultural Center Gwangju, Korea	<i>open neutral environment</i>	2005
25	Stadshavens, Rotterdam NL	<i>urban mosaic</i>	2006
26	Grass House, NL	<i>dutch basement</i>	2006
27	Tsunami Monument, Norway	<i>the white field of stones</i>	2006
28	Shinkenchiku 1, Japan	<i>emo house - the fourth room</i>	2006
29	Shinkenchiku 2, Japan	<i>projection house</i>	2006
30	Flowpolis, Spain	<i>webbing - soft urbanism</i>	2006
31	Riga Kengarags, Latvia	<i>kengarags valleys</i>	2006
32	Vision Afsluitdijk, NL	<i>maritime network</i>	2007
34	Mayor's residence Rotterdam, NL	<i>processor</i>	2007
35	Gateways to Fryslan, NL	<i>show me Fryslan</i>	2008
36	Building for Bouwkunde, Delft NL	<i>triple landscape</i>	2008
37	Rotterdam City Tower, NL	<i>a true highrise for Rotterdam</i>	2009
39	Interreligious City Block, NL	<i>contact</i>	2009
40	Green River, Rotterdam NL	<i>shared green space</i>	2010
41	Riga Air Baltic Terminal, Latvia	<i>flow terminal</i>	2010
43	Fargo downtown infill, USA	<i>re-active issue</i>	2011
44	Spiretec, India	<i>archipelago</i>	2011
45	eVolo 2011	<i>highland</i>	2011
46	Gösta Serlachius museum, Mänttä Finland	<i>embrace</i>	2011
47	Montreal International Gateway Corridor, Canada	<i>network</i>	2011
48	Istanbul disaster prevention center, Turkey	<i>halo</i>	2011
49	Low and High Technologies for the Emergencies	<i>facilitator</i>	2011
50	Contesta Rooftops	<i>community building</i>	2011
51	Pruitt Igoe Now, the unmentioned modern landscape, USA	<i>new life</i>	2012
52	Otaniemi campus, Aalto University, Helsinki Finland	<i>networked tissue</i>	2012
54	Sixty Nine Seventy – the Spaces Between, USA	<i>the yellow</i>	2013
55	Transformation Fence Ground Station, Delft NL	<i>skin</i>	2013
56	Transformation Fence Ground Station, Delft NL	<i>glow</i>	2013
57	Mapo Oil reserve base - Seoul	<i>explorer</i>	2013
58	Fabrikaat 2# Nijmegen, NL	<i>the ivy is coming!</i>	2014
59	Agropolis Kinrooi, Belgium	<i>food campus</i>	2014
60	Klekovaca Tourist Centre, Bosnia and Herzegovina	<i>open valley</i>	2014
62	Seoul Jamsil Sports Complex, Korea	<i>seoul get ready</i>	2015
63	OZ wheel design, Italy	<i>blades</i>	2015
64	Alvar Aalto Foundation, Jyväskylä Finland	<i>interface</i>	2015
65	Florim, Milan Italy	<i>ultra lite</i>	2015
66	Device for co-creation	<i>flower</i>	2015
67	Tapio Wirkkala Rut Bryk Foundation Archive, Espoo Finland	<i>people's random access memory</i>	2016
68	Suncheon Art Platform, Korea	<i>big tree</i>	2016
69	Busan Bunker Complex, Korea	<i>column of light</i>	2016
70	Belgenmonument, Amersfoort NL	<i>lavender</i>	2016
71	Tri Ân monument, Louisville USA	<i>tri ân</i>	2016
72	Experiential Beer Garden, Bologna, IT	<i>zarri beer lab</i>	2017
73	Endless Interior, Rotterdam - Oslo	<i>endless interior</i>	2017
74	Tamayouz Rifat Chadirji, Mosul	<i>rebuilding Mosul</i>	2017
75	Energy Lab Nagele, NL	<i>circular forest</i>	2017
76	5bridges4Rotterdam, NL	<i>manifesto for a balanced city</i>	2018
77	Vortum Mullum, NL	<i>field pavilion</i>	2018
78	Design Approach Lecture for Fadu, Montevideo, Uruguay	<i>mindsets</i>	2018
79	Affordable Housing, Phnom Penh, Cambodia	<i>green paradise</i>	2018
80	Regeneration of Tongyeong Dockyard, South Korea	<i>hotspot</i>	2018
81	Smart Square, Den Bosch, NL	<i>crystal palace</i>	2019
82	Contrei Live, Leidedal, Belgium	<i>amelberga</i>	2019
83	DL&W Corridor, Buffalo, New York, USA	<i>loop</i>	2019
84	Future Park, Melbourne, Australia	<i>parkspace</i>	2019
85	Police Station, Netherlands	<i>modular</i>	2019
86	Monument for Silicon Valley, USA	<i>crown of hope</i>	2020
87	Parc Omega, Canada	<i>seven tales</i>	2021
88	House for a private client	<i>playfield</i>	2022

INFRABODIES © 1997/1998

initiative: Monolab

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with W. van Alebeek, R. Jansen, K. Klinkers, R. MacRander, A.J. Oudijk

FUSION

test case

In 1997/1998 Monolab made an independent study into the programming of urban vacuums, empty zones along heavy infrastructure. The A20 highway, which functioned as a test case, is the northern part of the Rotterdam Ring, a bundle of infrastructure in a context of high compression. Had this research been executed in accordance with current laws and regulations, an impenetrable mountain of limitations would have emerged. So we approached the research from the opposite side in order to reveal the potentials of infrastructure. The six locations in the A20 context serve as typological examples for many comparative situations in Holland.

fusion

We are living in an era of interlace. In this early research, vacuums have been discovered where fusion takes place: the intertwining of program and infrastructure in conditions of high compression. As fusion creates new programs and performs best with flexible and variable programming, the Infrabodies are organized neutrally to allow absorption of a wide variety of programs.

KLEINPOLDERPLEIN - 100.000 m2 COMPRESSED INTERCHANGE

The overpasses in this compact interchange are first encased within tubes, including free space for future extension, whereupon the complete interchange is wrapped in a glass skin. Because the flat volume cannot be subdivided, an interior is created for urban events, like a center for body culture. The present roundabout at ground level unlocks this Infrabody. The barrier of the subsoil A20 is neutralized by lowering the main floor of this Infrabody. As a result, the A20 tube is physically suspended in space and it can function as a grammatical 'bridge' with a pedestrian boulevard on top.

SCHIEPLEIN - 150.000 m2 URBAN TURBINE

This Infrabody is also contextual in the sense of its outer limits: the shape of a roundabout suspended over the A20. Buildings are stacked in a brutal and simple way. Infrastructure penetrates the stack and is totally interconnected by prosthetics, linking the interface to the highway. The tramway punctures this interface and a helix brings vehicles to a height of 140 m. The central atrium is suitable for the more closed programs. Each building performs its specific and visible structure. There are voids between the disc-shaped buildings that have two functions: transitional zones for structure and public lobbies for visitors. The lobbies are visual keys to the internal structures of the stacked buildings and can be programmed, for example, as squares, urban swimming pools or golf links.

BERGWEG - 380.000 m2 TILTED CITY

The most important crossing below the A20 is at the Bergweg, at a concentration of public transport. The context offers a very narrow and stretched profile between rail and highway and the huge compression enables a colossal program. The result can be regarded as a tilted city, a vertical frame that absorbs various programs including infrastructure. Public buildings are suspended in vertical squares. The length generates a double use of the facade zone: sloping infra channels interfaced with the highway, and an eco sunscreen of vertical greenhouses offering shade, humidity and oxygen for the programs behind. This Infrabody is situated on a vast plinth with deck that connects A20, Bergweg, railway and station. Plinth and deck connect both separated city parts on the North and South sides and offer a mega-window to guarantee views from the surrounding city.

STOOPWEG - 300.000 m2 VERTICAL COLONISATION

The parallel interaction of highway and railway generates a shrapnel-shaped Infrabody of such dimensions that it creates a huge atrium building, the biggest in Europe. Programs in its interior colonize the neutral shrapnel: vehicles on the outside and people at the atrium. Gondolas travel vertically as well as horizontally along the structural facade grid, carrying cars and contents to co-ordinates, addresses. Cars are then shifted inside; this type of Infrabody can be considered as a huge neutral parking structure that can be programmed with various functions.

ROTTE DELTA – 550.000 m2 PARALLEL SOILS

The most positive, and at the same time, most tragic property of the City Ring is its separative character. Along the Ring we can find hidden sites with qualities of a natural paradise. One tragedy of Rotterdam is its denial and subsequent destruction of its natural native area: the little River Rotte. Here infrastructure (A20 and railway) has amputated the city from its womb. To restore initial qualities, a parallel soil is pulled over the infra-barrier. Shallow distribution programs can nestle in the space below this bridged delta, perforations allow sunlight and air into this parallel world. The evolution of the working class here becomes real: the randstad cowboy combines interim management in the morning with ecological farming in the afternoon.

TERBREGSE PLEIN – 5.000.000 m2 NON-BUILDING

This site is exemplary of the many big cloverleaves; spread out so extensively by traffic speed that they can be considered landscapes. Terbregseplein absorbs heavy infrastructure casually by way of the definition floor-or-no-floor. A package of 3 x 2 sandwiched floors makes big spans possible. Thus a stack of different worlds emerges: structureless landscapes versus structure-jungles. To escape from all limitations, infrastructure is cased in tubes and is given free play to penetrate the floors wherever necessary. Accessibility is provided by existing on and off ramps. The floor fields can be fertilized like landscapes by programs + air + sunlight through macro- and micro-perforations. Programs create their own ecosystem in this neutral environment of floors and column grids.

MICRO BODY © 1999

assignment: Delft South station

client: City of Delft

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf

MICRO BODY ©*...an urban epicenter, a connector of all infrastructural flows...***track**

Between Rotterdam and The Hague a doubling of the railway tracks will resolve the last bottleneck for the Randstad Rail System. Delft Central Station will be situated underground and Delft South Station will extend over two levels: at grade and at N470-level.

Delft South Station is the entry to Delft South and the Technical University of Delft (TUD). At this moment the 'station' with rail tracks and N470 are barriers between four city districts. It has no comfort or services. The link with the TUD is primitive. The N470 'highway' plays a key role in this project. It can generate a Polycentric Delft City.

laminare

Delft consists of a series of north south oriented zones that are functionally divided by roads, waterways and rail tracks. The positioning of Delft along the Randstad Ring cannot be more perfect: the A13 and A4 highways on each side and the N470 in-between as a direct link.

deus ex machina

Delft South Station is an urban epicenter, a connector of all infrastructural flows; trains, cars, taxis, buses, cyclists, travelers and pedestrians.

N470

The potential urban performance of the partially suspended N470 is gigantic. The empty and unused zones along its periphery can be programmed with at least 900.000 m2 floor space. Here corporations will no longer determine their positioning by nostalgic motives (...Rotterdam vs. Amsterdam...) but more European by a clear comprehension of the Randstad.

Delft can intensify deep into the 21 century without operations like border corrections like the The Hague city planners.

The N470 will develop into City Center Delft South.

time machine

The wider 'railway river' and Delft Central Station generate a direct link on top of the future tunnel deck. Due to the subterranean condition of Delft Central the deck slopes downtown and can be connected to the higher N470-level of Delft South Station. The directness of this link is incredible: the two centers of Delft, Center and South, are creating a 'time machine', linking the Middle Ages with the 21st Century within five minutes by bicycle. The deck can be planted with buildings and vegetation and will shield noise of the trains.

Delft South Station

The station consists of three parts at different levels: below platforms as connectors to the surrounding city districts, in the center a station hall as an interface (extension of the N470 deck) and a booster program on top.

The interface controls all traffic flows: pedestrians in its center and vehicles along its periphery. It offers a transition zone for the structure of the booster. A limited number of columns on the platform level branches off into a denser grid of columns for the booster. The booster fits any program because of its densified grid. The booster contains the program part, in this case 20.000 m2 office volume, which supports the station financially. The booster can be permeable for vehicles at N470 level by peripheral tubes around the station hall. A lowered part of the platforms serves as a 'bicycle highway' which crosses below the railway. The station can be considered a void, an excavation in the booster program.

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COMPRESSOR OVERSCHIE © 1999

assignment: Ververst - a design based research into new urban concepts

client: Ministry of Spatial Planning (VROM) and Control Group Experimental Housing (SEV)

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with H. Heckwolf, D. Nieuwstad

EXPONENTIAL URBANISM

*...stacking slabs of city is one way to create density...***nodes**

In this project we looked into the programming of nodes in infrastructural networks.

Through massive programming on nodes we are able to avoid part of the smothering carpet of low density (housing) programs, which is spreading over Holland. Our aim here is to fertilize urban material with diversity, integrated services, higher efficiency and lower costs. We are convinced that nodes, embedded in existing infrastructural networks, are ideal locations to realize massive programs. These kinds of sites are difficult to develop, but they force us to apply techniques of concentration and intensification, the tools for urban planning in the nearby future. We consider the results of this survey a manifesto for exponential urbanism. In consequence of INFRABODIES, our research in the programming of empty zones surrounding heavy infrastructure (1997) and in particular in consequence of the concept for Schieplein - Urban Turbine, you can find here a summary of our research into the programming of two infra-nodes.

black page

Our clients gave us a free choice to select our site, within the time window of 2030. Overschie became our test field. Overschie is a small village, caught in the periphery of Rotterdam. It was seriously damaged by the passage of the A13 freeway, which became a kind of 'Berlin Wall'. For us the keys were two infrastructural nodes on its north and south boundary, providing us with the fuel for an exponential urbanism. The inhabitants of Overschie are breathing polluted air. The solid traffic flow makes them passively smoke an equivalent of up to 17 cigarettes a day. This is one of the black pages in urban planning history of The Netherlands. The engine of the transformation of Overschie can be triggered by two elements: the new A13-A16-link and the construction of the A4, both infrastructural bypasses that are planned to relieve the A13 from congestion. This highway however will still remain the perfectly situated northern urban boulevard of Rotterdam.

A13 freeway

In our scheme we buried the A13 underground. Overschie can develop a Central Park on top of the A13 and can become a village once again.

A13-A16 node

The A13-A16-node can be developed as infrascap: a business park integrated in a lifted landscape. This node will be covered by the new A13-central Park of Overschie as a new urban landscape with opportunities for a complete new office area for the Randstad. The structural grid is derived from the grid of the present waterways. Overschie Central Park connects the existing Park Zestienhoven to the polder area Midden Delfland over this infrastructural bundle.

Kleinpolderplein node

The Compressor Kleinpolderplein will be developed with urban programs and housing. Because of its position between the Randstadring, Rotterdam Airport, Rotterdam Northwest office park and the city itself, this node generates an enormous potential. The underground A13 is combined with a metro tube that links the Central Station, Rotterdam Airport, RandstadRail (present Hofplein trajectory) and the future HSL (high speed train).

Compressor Kleinpolderplein

This is the biggest Infrabody with the smallest footprint we have ever planned. The programming of such a location with such a massive scale is without precedents. Its density is beyond our present day comprehension. Its time window is around 2030.

The Compressor consists of stacked slabs of city and reaches a height of about 300-meters, the present European ceiling. It brings programs together in a dot under high pressure and it makes urbanism inevitable. To bring the Compressor to life, we perforated it with various kinds of atriums for the admittance of light and air and linked it to various types of infrastructure. Its sheer mass exploits the existing infrastructural node. Its massive density forces all infrastructure to a vertical orientation. The five floors of the interface take care of all incoming and outgoing traffic by prosthetics reaching out into the surroundings for public transport, trucks, cars, metro, bus, pedestrians and cyclists. It takes care of connecting the massive conventional, horizontal traffic flows to the new, vertical, internal systems. The floor fields of the Compressor obtain a variety of qualities such as daylight, fresh air and panoramic views. These qualities create zones for specific programs like housing, working spaces, offices, commercial programs, recreation, parking and storage. Obviously housing is nesting along the outer perimeters of the slabs.

The root shaped atrium is placed between the infrastructure bundles of the interchange, it is structurally stabilizing the whole and provides air, light and views. The slabs of urban material all have a top side that can function as a public soil. It is possible to program these with landscapes, parks, squares, swimming pools and sports facilities.

A high-rise traditionally includes a relatively big core that mostly destroys the efficiency of the floor plans. In the compressor we atomized the core. It is exploded in 'small' particles and spread over the complete surface. We can do this by using the gigantic columns as tubes, supporting the slabs and at the same time functioning as infrastructural carriers: structure becomes infrastructure. The columns are sufficiently wide to accommodate emergency stairs, services, etc. Each column supports a ring of elevators around its perimeter.

The car elevators are combined in a tower and transport vehicles to a 150-m. height. A structural grid makes the vertical boulevard that runs through the main root shaped atrium and is programmed with urban facilities. The boulevard is covered with a cloud of gondolas. These gondolas travel vertically as well as horizontally, programmed to avoid each other. Compared to traditional elevator systems many more 'vehicles' can travel in a vertical slot and the problems with stretching cables are past.

Data

height	300 m
foot print	2.5 ha
floor plans	210 X 170 m = 35.000 m ²
floors	7 slabs with each 9 floors
interface	5 floors, each one for a different kind of traffic flow
number of floors	68
gross/net floor area	2.300.000-m ² / 1.300.000-m ²
residential	26 % = 340,000 m ² = 2550 apartments / density = 900 apartments / ha (100 x 100 m.)
rest	74 % = housing related program, offices, commercial and cultural surface, services and parking

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BREDA SANDS INFRASCAPE © 1999

assignment: high speed train station for Brabant 2050

client: Province of Brabant - 'Brabant 2050'

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with W. van Alebeek, H. Schurk, S. Werner

URBAN VAGUE

spread

The Province of Brabant in the south is only one of few governmental bodies in Holland that is alarmed by the disastrous spread of urban substance. Lack of urban control by the state and a subsequent overflow of the Randstad is causing a haze of urban material which results in an absence of real landscape and an absence of real cities, a blurring urban vague. Five studios were involved to look into this issue. We got the assignment to design Brabant's future HSL-station. Very interesting: a station for the European high-speed train in Brabant where these trains would not stop. We took this question very seriously.

how

The emerging issues for us were 1. how to stop a high-speed train? and in doing so: 2. how to avoid an urban vague?

keys

We explored a strategy of exaggerating Brabant's contextualism. Our keys being a disappearing landscape, damaged subsoil water management, uncontrollable urban spread and local short-term political agendas.

sand

For the station we concentrated on a future infrastructural node, west of the town of Breda. HNS landscape architects developed a proposal to restore the natural subsoil water system in Brabant. They proposed to excavate large lakes in the north of Brabant to absorb rain water. Naturally filtered water would then submerge in natural locations like before. Together with them we developed a concept to bridge infrastructural barriers by using the leftover sand from these lakes. One location could be *Breda Sands*, right on top of our node.

excavations

Monolab started to excavate this pile of sand in a strategy to avoid visible urbanism, as we knew that standard Dutch urbanism would further develop the appearance of Brabant's landscape into a Randstad-look-a-like. Brabant expected us to provide urbanism by means of buildings while we submerged ourselves completely into landscaped concepts.

infrascap

We designed the infrascap, a synthesis of infrastructure, urban program and landscape. It is a refined way of integrating metropolitan programs in situations where the visual presence of these programs is inappropriate or not wanted. Here a stratification of a new freeway, a new city highway and a high-speed train-track generate five million m² floor space for a new city centre. We designed a grid at ground level, a spaghetti-like web for pedestrians/cyclists at +1, infra tubes at +3 level and a landscape deck on top.

The infrascap could serve stations, long- and short- term parking facilities, commercial programs, housing, offices, business districts, etc. Metropolitan programming would be the only way to stop high-speed trains in this node that would serve the complete southern half of The Netherlands, connecting it to the rest of Europe. Shuttle trains could bring people and cargo to main ports like Schiphol and Zaventem.

Brabant City

For Breda this project opens the window to a Polycentric Brabant City.

grand project

For Holland this could be a way to 'cure' itself, to handle its continuous problems with big projects. It would be a project to overcome the tiny private goals of local governments with their hidden, but at the same time extremely visible and present agendas. Instead it would need co-operation between Brabant's towns or top down co-ordination by a central government. Dutch consensus society already has too many shipwrecked projects.

BEYOND REPRESENTATION subtext

integration

...after the representative age with the subsequent post war concept of 'The Black Box' (Modernism, representing urban programs in clearly defined volumes) we gradually enter an era where representation fades and is going to be replaced by integration. This process fuels the subsequent visual disappearance of urban material...

polycentric Brabant City

For Breda and the rest of Brabant's towns, the HSL (high speed train) launches the opportunity to become a flexible and efficient Polycentric Brabant City. We can survive without continuous parasitism on medieval city centers: no more *Pavlov* urbanism.

Breda Sands Infrascap

...a concept that fuses infrastructure and urban material with existing landscape. It is a refined way of integrating metropolitan programs in situations where the visual presence of these programs is inappropriate or not wanted...

scale

This project operates for the south of Holland, an area of roughly 150 by 50 km.

serum

It is a serum against the disastrous proliferation of urban material. Its birth requires political and functional co-operation of Brabant's competing towns and regions. It can be a catalyst for long-term integration of planning and urbanism, political integration of cities and regions to overcome the dispersion of innumerable parking facilities, business parks, logistic centers, transferia, etc, etc.

LEIDSCHER RIJN CITY CENTER © 2000/2001

assignment: a city center for Leidsche Rijn

client: City of Utrecht, project office Leidsche Rijn

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with W. van Alebeek, K. Quantin, P. Schirr Bonnans, K. Verhoeven

PROGRAMMATIC BLENDING AND ABSORPTION

...creating a vehicle free city center, a pedestrian paradise by embracing infrastructure...

birth

This scheme creates a vehicle free city center for the 80.000 new inhabitants of Leidsche Rijn. It increases the population of the city of Utrecht by one third. It is based upon multiple space use and the interlace of infrastructure and urban programs. Its huge quantity of floor space generates the birth of the Polycentric City of Utrecht.

We don't need to be fully dependent on Utrecht's medieval city centre anymore. At the same time we realize a city centre with all kinds of mobility: an operation that is currently taking place in all European city centers retroactively.

dynamics

The center is positioned on the node of the A2 highway and rail tracks with infrastructural implications that cannot be denied. This node stimulates inescapable dynamics and urbanism that raise its significance and growth. We investigated these infrastructural implications and dynamics.

services

In the scheme the infernal conditions of the A2 highway (10 lanes in a total width of 80 m.) are restrained by absorption. All infrastructural spin off is exploited by sophisticated services for inhabitants, visitors, delivery, transferium, parking and public transport stations. By these services the center obtains perfect accessibility. The services are interlaced with a city floor and city blocks.

breeder sheet

The vehicle-free context is realized by an infrastructural 'breeder sheet' that facilitates a complete accessibility. The parking, the delivery, the intertwining with the A2 highway, the railway tracks, public transport and large-scale commercial programs are absorbed in this sheet as well. The city floor, hovering over these services, is free of vehicles and negative aspects of delivery and public transport. This floor creates an eco-sphere for pedestrians.

programmatic blending

The urban tissue is explicitly meant as a paradise for pedestrians and cyclists and therefore has a small-scale layout. It is cloned from the medieval inner city material of Utrecht. We reduced it 50% in size to deliver small urban blocks that hesitate between city block and building. They are four layers maximum and programmed with a mix of commercial program, working, housing and recreation. The blocks can be parceled vertically and/or horizontally or be filled up completely with department stores, for example. Derived from their smaller scale, the blocks can have either individual and single or assembled qualities. The dimensions of the center are limited to 950 x 600 m. to keep its boundaries within a walking distance with a range of 500 m. The tissue takes care of absorption of higher positioned infrastructure which is hardly visible anymore because of the denseness of the tissue. The center is equipped with a commercial ring and a linear park on top of the A2 highway. Because the center is absorbing many programs, the park is animated with lightly programmed pavilions. Fifty percent of the four layers of tissue are to be programmed with apartments. The small towers are privatized protrusions of its residential program. The center fits seamlessly in the layout of Leidsche Rijn. Programmatic blending and a large number of voids, escalators and lifts take care of light, air and contact in this multi level layout. Programmatic blending and multi level uses are essential to answer the demands for quality, social control and dynamic life of the center.

strip

Within 450 m. from the station The Strip is located, a floating plinth with metropolitan volumes, towers for offices and apartments, that emerges as a new permeable horizon between the city centers of Utrecht and Leidsche Rijn.

phasing

The scheme can grow in six steps and contains a maximum of 1.050.000 m² floor space with 16.800 parking places. The first phase can develop a number of primitive 'peripheral boxes' with parking around the perimeter. Later, these boxes can be absorbed in the multi level layout. An Ikea can plan its primitive box in the infra world and position its more advanced and pedestrian friendly program, like restaurant, shop windows and children paradise at the city floor. The capacity of parking and the high-grade public transport connections with the inner city of Utrecht will generate a transferium.

if

If Leidsche Rijn wishes a more local city center with traditional urbanism it should not be planned on this site. If a conventional scheme is positioned on this site anyhow, all program will have to be moved away from infrastructure. All infrastructures will block future development and will be restricting and ruthlessly present.

OPEN AREAS SHOULD REMAIN UNBUILT

crisis

The present Dutch political culture shows little interest in our increasingly complicated future. This counts especially for urban planning. Urban planning is in crisis. Never have so many designs been made, never have there been so many issues discussed and never has our government kept such a loose reign on the layout of Holland with such poor results. The crisis reveals itself in a disastrous proliferation of urban material. Buildings are spreading unimpeded over open areas. By building in low densities the open Dutch landscape is deteriorating even further.

fragmentation

This is made possible by our inactive government. It allows parties in the commercial market to cash in mountains of capital while fixing, with their eyes shut, easy low-density programs in open areas.

On top of that, local authorities are generating initiatives originating from short-term policies and small-scale competition. This gives any town or village in open landscape its own periphery with business parks, sports complexes and residential expansions. This fragmentation is incredibly inefficient and destroys the open landscapes of Holland.

urban fall out

Compared to other countries, Dutch people are working and living in the largest numbers per square mile. Strangely enough they are doing this in the lowest possible urban density. Very soon it will be impossible to experience pure, open landscape without being disturbed by buildings and infrastructure.

Furthermore it causes congestion. Horizontal expansion creates an exponential growth of continuously moving masses. Housing, working and recreation are situated far apart, so everybody is continuously on the move. The Randstad is being suffocated already by congestion and it subsequently causes 'urban fall out' in large parts of our country, especially in the province of Brabant.

investment

The present surface of urbanized area in Holland is sufficiently large to absorb all necessary future programming. It will hereby be necessary to densify by multi level urbanism, a praised but not practically utilized strategy. Density creates intensity, it ensures programmatic blending and multifunctional use. This is more complex and needs more intense co-operation of parties that are now still operating separately. It seems more expensive than never ending horizontal expansion. It is an investment for generations to come.

TBOG law

It is clear that density will have to be commanded. Also the responsible authorities will have to force themselves into motion. We plead to declare a radical and very simple measure: a law stating total prohibition of building in non-built areas (in Dutch: de wet Totaal Bouwverbod in Onbebouwd Gebied), the TBOG law. In our political consensus culture this declaration might seem ridiculous, but on the other hand it is necessary and purposeful.

instrument

The Fifth Policy Document for Spatial Planning (Vijfde Nota Ruimtelijke Ordening) should be the instrument to solve these problems. Certainly it will contain lots of paper, lots of words and lots of hot air. Holland will get the appearance it deserves.

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VILLA XXX © 2001

assignment: one villa in the back of a plot

client: confidential

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with H. Heckwolf, D. Nieuwstad, S. Prouille, R. Salazar, H. Schurk

site: confidential

VILLA XXX

...jaws versus nesting...

hide-out

Our clients are living in a small house on a large piece of land; an old vegetable garden. They asked us to design a villa, in the back part of their land, behind a small wooden shed.

The villa had to be invisible from the road in order to allow for a building permit by the municipality. By concealing this villa, we created a hide-out.

crocodile

We lifted a slab of soil and grass and inserted two concrete columns into the gap. These columns prevent the program from being eaten. The structural elements allow the program and inhabitants to nestle safely: this villa is not a crocodile.

raft

The soil conditions are poor and the garden is somewhat swampy which makes a Dutch jungle.

We inserted a floating floor, like a raft. The raft offers comfort. It makes the villa approachable and it extends out by a small terrace over the garden. It has a pit -a shallow excavation- that contains the children's rooms surrounded by flexible, sliding glass panels. When the children have grown up and are living elsewhere, the pit can become a study, a second living or a master bedroom. Aluminum floor panels heat the villa. The 'sky' over the raft is a vast concrete surface, without any interruption and lit by floor spots.

kaaba

In order to free the villa from programmatic debris, we used the old, small, wooden, black, contextual shed. We transformed it into a black, mysterious block and placed it in the center of the plan. It resembles the Kaaba, here surrounded by its inhabitants. The Kaaba is very dense with program including a wardrobe, bathroom, kitchen, study, toilet, master bedroom, stairs, services, etc. It perforates the slab and serves the two worlds over and under the slab. Seams in its surface tell us which parts are operational.

split screen

The bedroom window of the Kaaba acts as a split screen. It cuts the slab and looks into two worlds at the same moment: living below and nature on top.

floating rocks

To avoid the gap becoming cave-like and to free the slab, the facades are completely glazed. Facades are positioned in three conditions: set- back at the entrance, in-line at the end and tilted at the garden. The tilting plane has three advantages: it makes interior inside the glass that is not covered by the slab, it reflects the sky during the daytime (stealth) and it allows cut and polished glass rocks to be glued on the top side. These 'floating glass rocks' allow the inhabitants to climb the tilted glass surface between terrace and slab.

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BODY HOUSE © 2001

assignment: an urban town house in Rotterdam

client: confidential

design: Monolab

team: J.W. van Kuilenburg with W. Hoogerwerf

site: Parkkwartier Katendrecht, Walhallalaan 94, Rotterdam

definitive design March 2001, start construction May 2003, delivery exterior Dec. 2003, interior 2004/2005.

BODY HOUSE

...predator...

urban stack

The Body House is an urban stack of three small projects. Below and on top are two extremely opposite housing concepts. Below is the fixed, interiorized, dark, heavy, robust, concrete socle. On top is the roof terrace as 'campsite' with a free, open, light, flexible, flimsy, nylon tent. In-between is the big living space with the body, a volume inside a second envelope, a concept that normally is to be found in big buildings.

China Town

The site of this private house is part of a residential redevelopment in Katendrecht, a harbor pier south of Hotel New York. Until the 1970's Katendrecht was still completely surrounded by harbors and ships. It was Rotterdam's China Town and red light district. Currently it is incorporated in the 'Kop van Zuid' redevelopment as southern part of the city center.

void

The house occupies a free plot in one of three rows of seven houses. We occupied a void that existed between the two neighboring houses.

heart

The program was very simple, there was no exhaustive list with spaces and square meters. The clients wished a living area with cooking & dining space at the heart of the house. Sleeping and bathing could function in a more peripheral way. In order to keep the living as empty as possible, we planted all program -except the cooking & dining space- in a plinth. The heart could then hover freely in the void over the plinth.

isolation

In the beginning the position of the heart in the exterior envelope was one of isolation. The question was how to connect it to the four exterior sides of the envelope. As we developed a wire frame to carry the heart, the issue became the structural and spatial behavior of this frame. Connections to the outside could be made in different ways.

body

The wire frame grew during the design process and connected to the plinth and the roof. Since the wire frame contained program it is covered by a skin. It became something like a mass, a body, a caged predator. We shaped it to upgrade the qualities of the void around. It has been cut like a rough diamond to avoid curved, expensive surfaces and because blobs are non critical. The result is a faceted body of which parts are covered with different types of skin: metal grill, glass, particle sheet with epoxy coating and synthetic fabric. The body contains the kitchen/dining space, however it also absorbs functions that in a loose lay-out would disrupt the open character of the living space, like trajectories for cables, pipes and ducts, heating and ventilation systems, the toilets and the bathroom. It takes care of infrastructure and moving patterns by four stairs, partly visible, partly secret and is the connector of plinth, roof and living. The body has made contact with the outside world by four wooden devices: a pivoting facade slab which serves as the entry with the letters 'use' of 'body house', a flipping door towards the patio, a tilting plank towards the terrace on top of the patio and a shifting plateau to the roof.

eye

The body attaches itself in the big facade opening at the front and deforms itself towards the panoramic view of the river. The front facade is faceted like an insect's eye and is pulled in and pushed out by the body. Three facets were glazed, the one below directed onto the context (the park), the one in the center focusing westward onto the river and the upper one spreading out to frame the ever changing Rotterdam skyline with its concentrations of Dutch 'high rises'.

lung

The intestines of the body are important. Apart from its Ethernet connection with brain center, the ventilation unit acts as a lung, breathing inside. A tentacle connected itself to the entry facade to inhale fresh air via the second letter 'O' of Body House letters on the front facade.

structure

The PLINTH is the base in cast concrete. It is a kind of lifted foundation or 'ground floor basement'. It gets special lighting from the patio in the back: during daytime sunlight filters down through steel grills on top of the patio (1st floor), at night artificial light beams up from under the steel grill patio floor at ground level. The patio is an assemblage of scaled up prefab concrete elements, placed within an hour.

A steel CAGE is placed on top of the plinth. It consists of a series of portals and determines the box shape of the living. The BODY is completely prefabricated, transported in parts and assembled at site. A crane lifted the whole into the center of the house, where it rested on helper steel that also stabilized the side walls of the house during construction. The body stabilizes the complete house. It holds part of the concrete floor with its foot and is connected to the roof beams with its top. It even occupies and stabilizes the front facade while pulling the facade in and pushing it out, directing the big window towards the panoramic river view. The only part not controlled by the body is in the back, where a steel X stabilizes the rear facade. The body frame has a deliberate structural non-logic. It is not calculated to save steel, it has no repetition but is shaped to guarantee the absorption of program and the quality of the surrounding living space: structure follows spatial quality. The body is faceted to simplify interior finishes. The kitchen/dining floor is made of 8-mm steel sheet, heated by a floor heating of copper pipes, warming up the body skin. The wireframe consists of steel tubes with square sections and

variable wall thickness. The welded nodes, designed to look simple, are deconstructed: the heart lines of the structural members are not meeting in single points.

The TENT on the roof is made of four vertical steel profiles supported by steel wires from the four corners of the roof. All faces of this volume can be covered in many combinations with a nylon fabric tent in three parts, each of which consists of three removable sub parts.

costs

The Body House was built on a very low budget. This was feasible because of accurate 3D-design, precise preparation and use of prefabricated elements. The exterior and body were built in five months. Unfortunately the city administration of Rotterdam, that managed the building process of the private houses at Parkkwartier Katendrecht, caused a delay of approximately 1.5 year. Due to inflation on the price of materials this delay increased the building costs. As a result, the owners of the house are managing the interior, supervised by Monolab.

project data

Address: Walhallalaan 94, Rotterdam. Clients: Tijs van Ruiten and Paula Colenbrander. Architecture and 3D-detailing: Monolab, Rotterdam.

Design: Jan Willem van Kuilenburg. Structural engineering: K-constructies, Rotterdam and Ove Arup, London.

Contractor: Bouwbedrijf Hofman, Maasdijk. Contractor steelwork: Dijkstaal, Maasluis. Contractor steelwork roof tent: Stream, Rotterdam.

Data definitive design March 2001, start construction May 2003, delivery December 2003, interior 2003 – present.

Building costs € 238.000 incl. 19% VAT, excl. labor costs interior, incl. services, excl. plot costs.

technical data

Plot size: 6 x 13 m, floor surface: 156 m², volume interior: 537 m³, exterior spaces: 106 m².

Main structure: steel profiles 100x100 mm variable steel weights 4 to 8 mm, fireproof paint finish.

Ground floor: concrete with integrated floor heating.

First floor: concrete with integrated floor heating.

Second floor: steel with integrated floor heating.

Third floor: steel grills.

Roof: concrete and steel.

Side walls: steel portals and lightweight concrete block infill.

Front façade wood with epoxy interior and exterior.

Rear façade: glass with silicon joints on living level, diffuse Reglit glass planks until roof edge.

Steel use main structure 11.000 kg, body 5.000 kg.

FREEDOM DRIVEN URBANISM © 2002

assignment: Zoetermeer Africa Road zone

client: City of Zoetermeer

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with N. Vauth

FREEDOM-DRIVEN URBANISM

*...versus hit & run architecture...***urbanism 2002**

Dutch urbanism has been in a state of crisis for quite some time. In our time it is a coincidental mix of separate processes. National and local government, the market and the lobbying of pressure groups force their way in support of their own party. It seems to work out well, but we all know the result is not one, but a number of -more or less- parallel processes which are fuelled by self-interest. A lack of coherent strategies results in a random process that can be experienced everywhere. Is this urbanism?

In our present time this Pavlov-urbanism operates through buildings. It is easy and quick. But the apparent advantages are at the same time the Achilles heel of this practice: buildings are realized by short term planning, they have a small scale and they are built with architecture. Buildings seem to be flexible and changeable, but in the end they are not.

Dutch structuralism, trying to build cities with architecture, unfortunately already has demonstrated that architecture alone is not capable of realizing social cohesion and a healthy public realm.

Through strong urbanism we can develop visionary planning with wider horizons. Buildings are planned within five years, this is quite a difference in tenability and responsibility. In strong urbanism we first work with urban tissues while buildings and architecture come in view only many steps later.

freedom

...significant in our present day urban practice is thinking, reasoning and acting by laws, rules, regulations and constraints. The resulting friction causes lots of damage to concepts.

We plead for a strong urbanism through various degrees of freedom. Urbanism is loaded with much more potential than we are using these days. We propose to work with six rude kinds of freedom, like for example 'freedom for unlimited high-rise', 'freedom for unlimited density' or 'freedom for building over infrastructure'. We apply these types of freedom in limited areas, in enclaves. By these types of freedom rich varieties of urbanism will flourish, varieties that do not grow elsewhere. Each enclave is different from the other, a rich collection...

Zoetermeer

...young, expansive suburban area in the green heart of the Randstad...suburban area almost without a past... ...unburdened by nostalgia...

freedom-driven urbanism

The city of Zoetermeer recently launched its Master plan 2025. After the launch we were asked to work on the zone Afrikaweg, one of the rungs of its ladder-concept. This zone is planned to accept urban program and to stretch the present city center towards the A12-highway. Zoetermeer is one of the fastest growing urban areas in Holland. The current concepts for Southward expansion could not occur without stretching the size and position of the present city center. Our work was to generate urban life along the 1400 m-Afrika road. We considered this strip too large to use standard urban strategies. We proposed to work with several types of freedom to allow the development of a number of enclaves. This freedom-driven urbanism could generate new types of urbanism, urbanism which is rare in the Randstad, urbanism that normally evaporates by friction in our consensus-society.

steps

To generate urbanism in the low density of Zoetermeer we introduced three steps:

- a. ...anticipate beyond the expire date of buildings and make use of urban tissues,
- b. ...think with various types of freedom, operate by freedom and operate by opportunities instead of constraints,
- c. ...utilize urbanism instead of architecture to generate coherent enclaves with a strong identity.

PTE

To illustrate this new freedom-driven urbanism we proposed the PTE, the Private Transport Enclave.

As Paris is perfectly served by one (metro-RER)system, in the Randstad eight transport companies are active within their own territory. They do not cooperate well, connections can be considered primitive. To beat everything, Zoetermeer is even served by its own railway track from the city of The Hague, which circles through Zoetermeer's almost empty suburban residential areas.

We propose for Zoetermeer to give its inhabitants the freedom to operate, whenever suitable, as a taxi. Every inhabitant with a car is allowed to join and compete. Their signal is a removable fluorescent green strip placed on the car top. The enclave has no fixed stops, raise your hand and you get a lift. We propose tax-free conditions in this enclave with free fares to allow many participants and free market competition.

To avoid any doubt, we calculated the equivalent of a people mover along the Afrikaweg and a serie of brand-new cars. One people mover with a tiny trajectory of 2 km length with 3 stops and 2 terminals and a capacity of 600-1200 p/h/d is the financial equivalent of 1680 brand new cars of 25.000 euro each, spread in a dense cloud over Zoetermeer.

CROSS VISION © 2002

assignment: A12 long term vision

client: Ministry of Transport, Public Works & Water Management (Ministerie V&W).

In the scope of 'Shaping the Netherlands', Architectural Policy 2001-2004 ('Ontwerpen aan Nederland', Architectuurbeleid 2001-2004).

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with M. Fuller, E. Stadman

CROSS VISION

Monolab was asked, along with three other offices (John Körmeling, Must, Post L30), to develop a long-term view of the A12 highway. This highway is supposed to be a test case. It runs east west through Holland, connecting Germany to the Dutch coast. In this project we proved that infra can no longer behave autonomously. We think infra should be interlaced with its context as much as possible. Its context should be served, which is contradictory to present policy, as where infra is considered autonomous.

illusions

1. to think that our present notion and phenomenon of the highway are still valid (they should be redefined and evolve).
2. to think that master plans are still viable (most master plans in Holland have been shipwrecked).
3. to think that the appearance of highways should have consistency (in our time nothing is more appreciated than variety).
4. to think that architecture or design can solve real infrastructural issues (architecture is too small scaled, design is a by-product).
5. to think that planning arrangements in a zone of 137-km length is possible (impossible and too costly).

In this research we applied cross vision, we looked across the infra bundle, north to south and south to north. We imposed a new hierarchy: first is soil (our origins), second is nature & landscape (enclaves with a strong coherence), third is urbanism (a u-turn from expansion to compression) and fourth is infra (evolution of its inherent potencies).

separation and evolution

Holland has become a victim of its highway system. This system has not been changed since the last 50 years of its existence. Lack of investment and capacity problems play the key role. Our society and the world around us have changed dramatically during this period. The highway decreased in competence in the meantime. During these fifty years we have already spoiled lots of potential spin-off. Highways are obstructed by local traffic. In urban regions 60% of all traffic is local and it occupies the highways for only 8-km (average). Spread of traffic by time management has not proven to be successful. In this vision we were using two tools: separation and evolution. We proposed to apply a freeway system to the urban enclaves of the A12 zone. We made a shift: the present highway becomes freeway and a parallel system on both sides is added. The freeway accepts transit traffic (120 km/h) with only on/off links at cloverleaves. The national Government should manage this freeway system. The parallel system on the other hand accepts regional traffic (80 km/h) with as many on/off links to its context as possible. Local government should manage this. The old highway evolves into a freeway with higher capacity and less obstruction and its parallel system obtains two qualities: capacity and reachability. We designed 'flippers'; short links for 80 km/h speed. Flippers can work horizontally as well as vertically. Zones with a higher density of vertical flippers can evolve into 'Infra Decks', sites with dramatic potential.

follow-up

Unfortunately in Holland it is still a practice for Governmental Ministries to commission architectural and urban firms to make schemes on short notice. This has at least one fatal consequence: the results are bought, not mastered. As a result, these Ministries lack development and their design methods do not track the cultural speed and development of our society. We think this A12 vision is a perfect opportunity to test an incubator, a kind of guerrilla group within the Ministry of V&W. The best way is to achieve real co-operation of analysts and designers of the Ministry and nine design teams (architecture and urban firms) of the second phase. Not by workshops, these are not powerful, but during the complete process of about six to eight weeks. The incubator would be a studio, a window to show interactions and results by discussions and presentations supervised by the Minister and the Government Architect. It should lead to real schemes, put into effect by legal force.

nine enclaves

In our research the A12-zone consists of six urban and three natural parts. We researched the nine enclaves, in order to enforce their identities. The four directives (soil, nature & landscape, urbanism, infra) all have variable input.

1. Randstad-enclaves (nature & landscape triggered). We are on the verge. By expansion, the Randstad is no longer an open landscape with islands of urban matter, but a sea of urban substance with 'green islands'. Small 'doors' connect these 'voids with landscape'. The issue for the A12, crossing this system, is how to deal with these 'masses', 'voids' and 'doors'.

2. Infra Delta The Hague (infra triggered). The linking of the City of The Hague to the infrastructural system is dramatic. The city has a grid system already, perfect as a network, but most of these links do not exist. We propose a 'delta of links', as a series of connections from the A12-A4-A13 combination. A growing reservoir of links develops at +1 level.

3. Infra Deck Zoetermeer (urban triggered). The City of Zoetermeer is split by the A12 and is encapsulated by the green heart of the Randstad. We propose an inward growth and development of the A12 passage. The inward growth can be developed along the three infra systems: railway track, ringroad and the north-south road connections. Flippers, parking

facilities, station, transferium and commercial programs will trigger the Infra Deck.

4. Gouwe Node (infra triggered). If we succeed in realizing the still missing highway link The Hague – Rotterdam and include the Rijn-Gouwe railroad we obtain an infrastructural mold to accept all future expansion of the Zuidplaspolder. Consequently, the Zuidplaspolder can remain an open landscape.

5. Polder Laminate (soil triggered). The landscape between the Cities of Gouda and Utrecht is part of the Green Heart of the Randstad which has marvelous qualities: it can be considered a Dutch Venice. The soil is not land but water, not a landscape interlaced by water, but water covered by thousands of islands. We propose to dig out series of laminates and use the water as a defense against threatening urbanism and to reprogram a certain percentage of laminates to accept natural and recreational program. We disentangled the highway in four separate tracks. Here a transparent highway deck can develop the passage of the A12 at its present +1 dike-level. The passage over the laminates -water and land- are thrilling.

6. Infra Deck Utrecht (urban triggered). The present infra bundle between Node Oudenriijn and Lunetten is a perfect breeder for creating an Infra Deck. It already developed a parallel system. The city of Utrecht can embrace its infrastructure at last. The deck consists of a sheet at +1 level. It serves as interface for vehicles that enter and leave by vertical flippers to the parallel system. A second sheet serves pedestrians. City quarters on both sides are connected.

7. New Heuvelrug (soil triggered). The Heuvelrug, a hill of sand (moraine) shaped by glaciers and covered by forest during the last ice age, crosses the A12. The A12 traces the profile of the moraine, passing over and thus obstructing the forest. We propose to make the Heuvelrug a national park, to reconnect the hill over the A12, to puncture the A12 and the railroad through the hill by tubes and to construct a visitor center, as a void, in the hilltop. Flippers and a train stop connect the visitor center to its infra. We gave the center a 'crater'. The partly glazed slopes give access to the park.

8. Werv City (urban triggered). This is a new city with a real green heart. The clustered towns of Wageningen, Ede, Rhenen and Veenendaal create a symbiosis of urbanism, landscape and infra. Four passages of the National Eco-System connect through its green heart, shifting green over red program. The parallel system oscillates between landscape and urban conditions. A bicycle ring road connects the four parts. The present functional qualities of this cluster (recreation, knowhow and education) can be boosted.

9. Veluwe Moraines (soil triggered). Like the Heuvelrug, the Veluwe consists of a glacier-shaped landscape. The A12 divides the Veluwe as well. We propose here to restore the initial condition by inserting seven moraines. Also we program at least the western one. Moraines are much bigger than our current so-called 'ecoducts'. The passages of infra through the moraines need attention as well.

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HOUSE for E © 2002

assignment: a villa to replace the client current home

client: confidential

design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with N. Vauth, K. Walsh

site: peripherie of Eindhoven

HOUSE FOR E

...no style, beyond taste...

taste

Our clients are living in the South of Holland on the periphery of Eindhoven, on a green sloping carpet.

The site is part of a strip of villas along a post-war residential quarter.

The clients asked us to compete with five more offices in designing a villa for the family (two parents, four kids).

The new villa would replace their existing house.

The parents worried about their difference in taste: nostalgic (she) versus modern (he).

rocks

We decided to go beyond taste. Matters of taste should not be given a chance to disturb, erode -and in the end- block the design process.

We tried to overcome taste by using only natural elements to conceive the villa.

The present site already offers a large garden (45 x 100-m.) with a slightly sloping grass carpet and a spread of full-grown trees.

We decided to power it by earthly and unexpected elements like rocks, to charge the contextual atmosphere.

These rocks would be hollow to contain program.

block

We placed a wooden block on top of the rocks. It will protect the open living space below.

The program is subsequently split in several parts: roughly a more open world in the garden - and a more private world in the block, one level up.

program

The villa is pushed towards the street to create an open social face, which will keep the garden undisturbed.

We puncture the private world in the block by a slit to allow sunlight between the rocks and we make a skin that partly unfolds three patios, for the parents, for the two elder and for the two younger kids.

The patio for the parents connects bed- and bathroom and is dominated by an open fireplace.

The patios unfold their facades, opening up to terraces on the flattop rocks.

The program is split into four parts.

Three combined rocks contain the garage/party space, the swimming pool/gym and the library.

The fourth programmatical part is the open space for living, kitchen-island, dining, etc.

The three rocks are positioned carefully to create space below and next to the hovering block.

The rocks can slope up and/or cantilever.

The only rock to puncture the block is the library; its top is glazed and opens up to the day and night skies, its shelves trace the interior surface of the rock.

The fourth rock floats free in the south part of the garden and serves as an annex for visitors.

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RETRO-ACTIVE POLDERS © 2002

assignment: Shipping Valley Drechtsteden

Client: City of Dordrecht, Chamber of Commerce Rotterdam and Drechtsteden

Design: Monolab

team: J.W. van Kuilenburg, L. Veeger, W. Hoogerwerf with K. Walsh, M. Salomon, N. Vauth, G.R. Pena

RETRO-ACTIVE POLDERS

*...the evolution of the Dutch polder landscape is completed...***container node**

The epicenter of transport and transshipment of containers in the Randstad region is still located towards its peripheral Southern Edge by the harbor area of Rotterdam. The growth of this centre was pushed by the ECT terminals during the 80's and 90's.

For all transport by road is going to cause a shift. The highway system in Holland is becoming less and less efficient. Container transport by road is and will be vulnerable. The main goal of the Shipping Valley project is realizing a multimodal gateway for container transport with a choice between water, road and/or railway.

To complete the efficiency of the big ECT terminal in Rotterdam, a location for another terminal is planned more land based towards the city of Dordrecht. Here, a future node serves as the passage for the HSL (high speed train system), essential highways and rivers. This node will stimulate interlace between short sea shipping and inland shipping by free access from the sea. Besides, a transport track parallel to HSL can complete the network and replace the risky rail track through the town of Dordrecht. Shipping Valley can be considered the extension of ECT Rotterdam because of its network of rivers, highways and HSL-tracks.

cross

The node is situated in two typical Dutch polder landscapes on both sides of the Dordtse Kil River, connected by the Kil-tunnel. Westward is the Hoeksche Waard and eastward the polder Biesbosch. Both are more or less protected landscapes. We made this an important issue. The N217 provincial road is the boundary in the north and the A16 highway in the east. The Kil-tunnel (east west) and Dordtse Kil River (north-south) make a cross that divides the node in four parts. The two east quadrants contain present and future business parks of Dordrecht. The north-west quadrant is occupied by the village of Gravendeel. In the south-west quadrant, the train terminal and harbor terminal are planned. A new generation of business- and office parks spread southward.

polders

The machine for the container handling will be in operation for twenty-four hours a day. It will occupy authentic and partly protected Dutch polder landscape, a landscape vulnerable to distortions because of its flatness. This created a double issue for us: planning a perfect layout for this merciless machine and at the same time give priority to the polder landscape.

dikes

The polder landscape supplied us with keys. It consists of flat pieces of land surrounded by dikes. The polders were reclaimed from the sea, by pumping out the water. The soil of a polder is the former seafloor. Dikes and polders became our tools to emphasize the priority of the landscape.

retro-active flooding

The container machine consists of several parts (ship-, train-, and road terminals and dedicated business- and officeparks) connected by 'vectors'. These vectors are transport systems for trucks, straddle carriers, trains, automatic freight vehicles, etc. Use of vectors leaves the terminals free for autonomous north-south directed development.

We bundled these transport systems along lines and pulled the grassland over. These new 'hollow dikes' shield most of the noise and visual disturbance. To plan the large and extended programs like business and brain parks, we started to 'flood' the polders retro-actively between the new and existing dikes with program by building floor fields. A grid with concrete square towers punches through the floor fields and provides elevators, escape ways, ventilation shafts and services. The grassland on top rises with the filling process until dike levels at +12-m. Big perforations in the plains allow daylight and air in the subsoil condition below.

hills

To insert office space and commercial space, we programmed the edges of the perforations. These locations are limited however. We started introducing clusters of floor fields rising from the top of the flooded polders and again pulled the grassland over these floor fields. Shallow hills started to surface...

cut-outs

Because of the proximity of the Biesbosch Nature Reserve eastward and the new programs westward, we introduced two landscapes in one. Seen from the Biesbosch, the hills show undisturbed hilly grassland. Seen from the west, cut-outs show crystal-like glass office facades appearing from underneath the grassland. Cows graze this hilly landscape, appearing around perforations, on hilltops and over or below office and hotel windows.

The evolution of the man made Dutch polder landscape is completed.

TRIGGER HAPPY URBANISM © 2003

Lecture for the seminar 'Urban Mutations: Periodizations, Scales and Mobilities' at the Aarhus School of Architecture

TRIGGER HAPPY URBANISM

*...comments on mutations as shifts...***crisis**

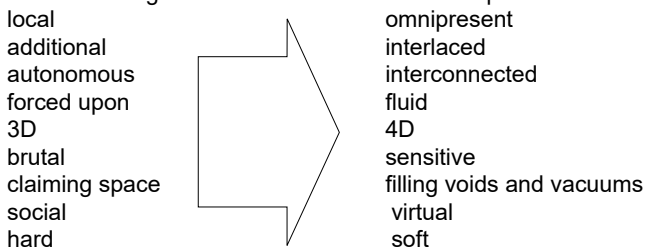
First issue: Dutch urbanism is in a deep crisis since the seventies. Since that time the Dutch lost the ability to handle differences and change. It results in consensus driven and problem oriented design processes, by obsessive short-sighted quests for problems-that-have-to-be-solved. As anyone can see, it infected the complete Dutch environment. It results in smoothing, leveling and low-density kinds of urbanism (more of the same) that waste potentially inherent cultural spin off. We think the real issues of today are bringing together contradictory or even offensive urban programs and pursuing the autonomous evolution of infrastructure itself and the web-like evolution of all possible links between infrastructure and urban substance. These issues are still alien worlds for most of the important urban participants and decision-makers. We have to deal with this.

lasagne

A second issue is that we currently live in an era of interlace. Urbanism can be considered a coincidental mix of separate processes, resulting in a lack of control. National and local Government, the market and pressure groups force their own ways to quickly 'solve' things. It seems to work out well, but we all know the result is not one, but a number of short-sighted processes which are fuelled by self-interest in a sphere without real responsibilities. Contemporary mutations in urbanism are no longer abrupt changes, but have to do with cross connections in his slow and thick 'lasagna' of processes. The right connections and interlace between the right processes at the right time can trigger urbanism in less accidental and random directions. Real urbanism generated in conventional processes is very rare.

pseudo

Third issue is that scales of mutations are not growing bigger. Many urban projects try to be flexible by scaling down to the individual (public space becomes individualized space) and by scaling down to building size (attempts to perform urbanism by means of single buildings). We consider this pseudo-urbanism. This raises the question of the effectiveness of architecture versus that of urbanism. We see an increasing use of architecture as short-term solution for urban issues. Concerning possibilities, architecture became a 'search & destroy' activity. Real urbanism, on the contrary, can still provide prospects, chances and wider horizons. We can distinguish a more or less clear development in urban practice in the last decade. Roughly, it follows the next paths:

**control**

Several firms for architecture and urbanism are currently celebrating a kind of 'open-end-urbanism'. This type of urbanism is a willing subject to all kinds of interruptions and changes, adapting to new conditions. Its birth lies in the acceptance of the absence of control. It is flexible, because it mainly handles processes, but therefore also very thin and easy. Many architects hide away behind the instability of their design processes and projects. Theoretically it sounds nice and full of logic. However, we still believe however in a certain level of control. In most of our projects a choice is made for an 'engine', 'interface' or 'breeder' to trigger development. These conceptual triggers can be an infrastructural context but also one functional part of a programmatic description.

lost prospects

Although processes play an increasingly important role, in contemporary and future urbanism the use of 'vectors', 'fields' and 'membranes' in interlaced projects are of great value. Vectors and planar devices (physical or programmatic) in urbanism are primitive (2D) and robust, and are becoming more and more important because of their adaptability, giving way to many possible directions. For all, we are virtually modeling physical objects like floors, columns, parking places and facades. We object to the so-called lack of reality in virtually built projects. We consider many of our virtual projects true to life, in which we are true explorers. By in-depth 3D research we explore and search to see and understand what we made. We often feel shock and surprise, valuable and rare emotions in contemporary urbanism. We try to explore the 'lost prospects' in urbanism by bringing together more or less contradictory issues. For example in Leidsche Rijn City Center, a super relaxed pedestrian paradise is in close contact with a hyper active infrastructural world.

We operate with three main tools: compression (high density), fusion (interlace of infra, urban material and landscape) and parallelism (links and communication in multilevel systems). We try to make intelligent and at the same time efficient and exciting links in the 'lasagna' between -more or less- crude, primitive and banal parallel worlds.

presented projects

Infrabodies.....	triggered by infra
Compressor.....	triggered by density
Leidsche Rijn City Center.....	triggered by absorption
Infrascape Breda Sands.....	triggered by landscape

URBAN WEB SPACE © 2004

Hammerfest Arctic Cultural Center - international architecture competition for the Findus site

client: Hammerfest Municipality and Hammerfest Næringsinvest

design: Monolab-Transform (Rotterdam-Aarhus)

team:

phase 1: Monolab: J.W. van Kuilenburg with J. Tenani, W. Hoogerwerf / Transform: L. Bendrup with L.V. Jensen

phase 2: Monolab: J.W. van Kuilenburg with L.V. Jensen, M. Klauser, S. Fernandes, A. Hassouri / Transform: L. Bendrup with M. Østrup, T. Lee

engineering: Ove Arup - Amsterdam, Barlindhaug - Tromsø, Erichsen&Horgen - Oslo

award: 1st shared prize (113 entries)

URBAN WEB SPACE 1&2

competition

The Municipality of Hammerfest, the northernmost town of Norway and Europe, organized an open international architecture competition for the Findus Site and the programmed Arctic Culture Center (ACC). Hammerfest will become the center of the multi energy (gas, oil, wind and tidal electric power) Barents region. A stretched 300-m. zone along the harbor seafront with the former Findus plant is free for an urban re-development consisting of a hotel and a cultural center that together would function as a congress facility. There was no first prize, but two second prize winners. Monolab-Transform won with 'Urban Web Space 1'. The other winner was a Norwegian team. We were asked by the municipality to rework our scheme and to compete with the Norwegian team for the first prize. For us, this 'reworking' meant in fact making a complete new design, because we had to bring the m2 and building costs within budget. This was not possible by simply adapting the scheme (a complete different situation, compared to the other winner), because a series of further major requests were assigned from the municipality. Although our new design, 'Urban Web Space 2', was just slightly over the m2 and within budget according to our calculations, Hammerfest Municipality unfortunately decided to give the project to the Norwegian team. The initial outspoken Hammerfest ambition suddenly seemed evaporated...

URBAN WEB SPACE 1 (phase 1 of the competition)**energy controlled urban tissue**

We proposed to realize an urban tissue that functions as 'outdoor interior'. This outdoors-public environment, a small-scale urban tissue (web) with all year qualities, is designed for pedestrians that are protected by surrounding buildings. The tissue is a web of connections that makes a pedestrian paradise and 'determines' the placement of buildings. The layout can be irregular which makes each spot unique. The webspace offers climatic control in two ways: 1. by the 'medieval low-tech' principle of the pedestrian webspace, a protective narrow pattern of small streets and alleys, and 2. by protective 'high-tech' flexible glass screens covering the web at less protected locations. The screens can flip open and close, following the local weather conditions. Only one laptop can combine both webspace and screens into an 'interactive urban organism'. Using a series of measuring instruments it will be able to decide which screens can be opened or closed in order to take care of climatic conditions, energy saving and energy gain. The webspace tissue is too small scale for big public buildings. So these buildings, like ACC and Hotel, are embedded on top of the tissue. The public buildings will be covered with glass as well. This glass protection shield will look like a brilliant crystalline drapery. In this way the public buildings underneath can have a delicate character and can be clad with subtle interior materials. Buildings and glass screens will allow light and air and co-operate in this urban 'organism-that-breathes'. It is clear that by all means we want to avoid the usual dramatic, sick qualities of endless mall-like interior spaces. Our target is an open-air pedestrian paradise with high-tech and low-tech energy control to meet the energy issue raised in this competition. Door-to-door behavior is now made fit for pedestrians instead of vehicles. In section, the urban tissue is caught within two horizontal planes. Below is the city floor, a plateau or stepping stone, between the lower quay and higher Strandgata, strengthening the idea of an urban 'interiorized' exterior. On top are a number of horizontal, flexible glass screens that span between buildings over the narrow streets and alleys.

flexible urbanism

The urban tissue is meant to be flexible. Small-scale volumes form a layout with narrow streets and alleys. We have proposed one possible layout. Of course phasing and adaptations can easily make more alternative layouts.

traffic control

The urban tissue is completely fit for pedestrians, except access for municipal service vehicles and two small docking positions for trucks and vans for ACC and Hotel. Traffic is kept where it belongs, vehicles can park in a sunken, invisible, integrated and collective parking along Strandgata. The parking serves the complete length of the site.

scale elements

Why push cruise ships away from town when these gigantic moving 'islands' generate interesting activities? We planned a quay as promenade deck on columns as part of this scheme, which allows (cruise) ships to fit closely in a layout of three parallel zones with different qualities and scales. The ACC competition site is then situated in-between huge contrasting elements: slowly moving cruise ships on the west side and heavy, solid hills on the east side. The urban tissue in-between is only 4-floors high and offers a socle for the big public buildings, resting on top. The same glass that protects parts of the pedestrian webspace covers these elevated buildings.

public buildings

Public buildings are resting 'on top' of the urban tissue. The web volumes below are serving the ACC and Hotel from the city floor. The space below the ACC and Hotel offers a protected sphere, which is part of the pedestrian webspace. The webspace connects hotel and ACC.

The HOTEL is a protective dome (maximum quantity of floor space with smallest surface of facade) which offers a compact foyer-lobby space inside. The sloping 'wall' of the dome contains the rooms. The insides as well as the outside of the dome are glazed. Each 'ring' of rooms has terraces on the exterior and a corridor on the interior. The glazed terraces can be opened up to catch fresh air and more light. Each room has a unique exterior panorama. The ACC can be considered a gigantic 'telescope'. Both auditoriums are oriented stage-to-stage for efficiency reasons (only one docking station) and the 'open-door' possibility exists to make one big amphitheatre. Both ends of this big telescope space are glazed and offer spectacular views targeted onto sea and land. The void is an arena or amphi with two programmed zones or 'cheeks' on both sides. The outer shape of the Amphi is a 'reversed mountain' standing on its top. It offers maximum space on the city floor and cantilevers outward. Visitors enter the building by the mountaintop and climb via a collective space in its 'belly' and on the 'inside of the mountain' towards the auditoriums and/or the cheeks.

The complete ACC is protected and covered by the glass protection drapery held up by a forest of steel rods. Through the north cheek a big public stair leads to the top of the Amphi, where we can make a sky deck below the glass.

Visitors can move in-between the amphi and this glass drapery. The sky deck offers a spectacular 360-degree view over Hammerfest, over the coast and over the sea. Furthermore we proposed to turn the ACC inside out. Everywhere in the world, auditorium- and theatre buildings are expressed by warm interiors and cold, hard exteriors. As a result of our transparent glass protection we gave Hammerfest a unique chance to finish this public building, in this extreme climate, on inside-and-outside with warm, soft, glowing, purple velvet.

structure

Building the ACC in Hammerfest's brutal climate will require a fast building process by assemblage in prefab steel. The cheeks will be stabilized by structural escape stairs at outer ends and by some web buildings around. By spanning structural trusses between the cheeks, both auditoriums will be built. After this, the glass drapery can be mounted. This will protect the complete building site against rain, snow and wind and speed up the last, more subtle building phases and the finishes of floors and walls.

URBAN WEB SPACE 2 (phase 2 of the competition)

program flow

In this new design we had to bring down the number of levels, the amount of floor space and the building costs. Drastic measures were needed, like taking away the glass drapery. Very important as well was to push program down into web space volumes supporting the auditorium volume. We made the foyer a dedicated part of web space, acting as a plinth and holding ACC structurally and programmatically. We gave this culture foyer a Y-shape to make a 24h-passage, as well as a direct link to the hotel.

ACC house of culture = plinth + rock

Five web volumes work together to make the dedicated plinth with a protected foyer in-between, on top of which an elevated volume, 'the rock' is embedded. This together makes the ACC. The plinth contains the Culture School, Regional Stage for Dance, Link Music Group, the Cafeteria and part of the culture house like the docking station and administration. The foyer is the center as connective heart in-between. The rock has become programmatically skinny and very brutal with only the two auditoriums, the side stage and escape paths along both sides. The simplified design now consists of only three principal levels: the parking on -1, the plinth with foyer at ground level and the two auditoriums via level +1.

plinth-foyer

The plinth of ACC acts as a structural and programmatic foundation. It is a collective space for visitors and passers-by, a filter, a social epicenter. The foyer has no threshold, because it fits the pedestrian patterns. The heart of the 'Y' makes many possible functional layouts in the 24-h cycle. All cultural groups can perform along the foyer or surrounded by the public. All facades can open up to organize events in the protected webspace environment. A wide, stepped connection is made between Strandgata and the quay. A big stair, excavated from the Culture School building, makes the connection from the foyer level to the auditoriums, right into the 'belly' of the rock.

rock-auditoriums

The two auditoriums are organized with combined stages because of pure efficiency, in order to avoid two separate stage towers and to avoid two separate docking facilities for unloading/loading. From the foyer, a direct stair leads into the belly of the rock on level 1 that functions as an interface with the entries to the two auditoriums.

The rock of course consists of an inner soundproof box with the two auditoriums inside. We wrapped this ugly volume with the faceted skin of phase 1. The facets have a clear reason: avoidance of curved and expensive surfaces. The skin covers the complete object now and makes six facades all around, including bottom and top. We pushed the facets inward as much as possible, like 'crashing' a car. Between skin and box we have kept some space available with several functions: it insulates, it carries ducts, pipes and services, it contains the escape stairs, personnel corridors and very important, it provides space for the main structural steelwork to carry and stabilize the rock. The volume of the rock makes the scale jump between the buildings along Strandgata and the big ships along the quay. We have put a lot of effort in the design of the rock, to avoid references of objects we know. Instead of designing a building we designed an 'object'. We did this by making the skin contextual, by giving it clear references to the Norwegian coastal landscape in the Hammerfest area, with its hills, plateaux, cliffs and overhangs. Our rock has several 'faces', from smooth and kind to serious and aggressive. The skin is a waterproof and insulating finish of shiny metal shingles, like the skin of a fish. We did this to keep the memory of the local fishing tradition alive. The alternative is an industrial system of aluminum sandwich panels with linear seams. The rock will change continuously with the amount of light, with the clouds and with the position of the sun. Parts of it will look grey and dark, while other parts will be reflective, brilliant and sparkling. Some strategic facets are glazed and will glow in the dark. Four facets that make two big windows at both ends of the rock are glazed to see the land and the sea from the two auditoriums. One specific facet in the belly, as a big triangular window, makes a visual connection between Strandgata, foyer and the belly space. The most spectacular facet is the one that opens up on top of the side stage, revealing a 'secret' space between skin and box, with a magnificent panorama over Hammerfest.

CULTURE VILLA © 2005

PAC Performing Arts Center Kristiansand international architecture competition

client: Kristiansand Municipality

design: Monolab

team: J.W. van Kuilenburg with M. Klauser, S. Fernandes, A. Hassouri, M. Zamazal

structural engineering / services: Ove Arup - Amsterdam

acoustic engineering: Ben Kok - Dorsser, Eindhoven

CULTURE VILLA

...interacting cultural spheres, autonomous and together at the same time...

contradictions

Generally, buildings like PAC have contradictory programs. On the one hand they need connective spaces like foyers, offices and distribution. On the other hand they need acoustic separations between the important public rooms like concert halls and theaters. A second issue is the obstructive position of ACC on top of the link with the town center. This makes the challenge: how to separate and connect at the same time?

split

The site is part of a new cultural district on the peninsula south of town. Important issues are the nearby silo building (industrial heritage), the passage over the site between downtown and this district and the link from the canal in the west to the rocky hill with the future parking in the east. Because the town is organized as a clear orthogonal grid, obstruction is an unknown phenomenon to the citizens of Kristiansand. So we allowed the public passage over the site to split the 16.000-m2 program into a lower part and a higher part.

super villa

To cope with this split we took advantage of the most direct villa concept: a floor and a roof with a 'living' in-between. To handle the 16.000-m2 program, we made a blow-up of an earlier project (House for E). This results in an urban super villa with two programmable slabs (plinth and roof) and the foyer in-between. All are all six meters high. Because the whole building is low and spread out, the 'living' will have to facilitate the urban passage and a foyer space at the same time.

two worlds

We made an effort to give both levels of roof and foyer clear Cartesian references to the city blocks of Kristiansand's urban tissue. The roof is an orthogonal elevated 'city block', while the foyer is its negative, a void in which the big rooms are behaving like masses. The plinth and roof sheets are the two worlds that protect and serve the open public level in-between. To make this building fit Kristiansand, both are made of contextual materials. We made the roof of wood, because of Kristiansand's history as wood exporting town and we made the plinth of natural stone, the material of the surrounding site. The two worlds of plinth and roof are apart and together at the same time. They cling together, interact and mingle and make direct contact as well.

cross

The foyer stretches from the rock (with the parking inside) to the canal. Perpendicular to the foyer the passage for pedestrians and cyclists moves partly across and partly in the plinth. It connects the foot of the bridge with the central road on the peninsula and it divides the foyer into a lower 'subculture' part in the plinth and an elevated 'high culture' part on top. Both connections make a cross, dividing the building into four parts. Each part is given one of the four big public rooms.

contact points

The big public rooms are spread and embedded in the three main layers. The slabs of floor and roof will absorb the smaller parts of the program and take care of connections, services and distribution. The contact points between the three layers are the four largest public rooms: 1. concert hall 2. theatre, 3. multipurpose hall and 4. large rehearsal room. These rooms, unique objects with their own identity, organize the open living, connect the three layers of the project and support the big roof slab. Both slabs of plinth and roof facilitate perforations for the big public rooms. The different departments settle around these rooms. This culture villa is alive and kicking by four pulsing hearts.

objects

The clear organization gives the roof and plinth freedom to interact: the concert hall is wrapped by a wooden curtain hanging down from the wooden roof, while the rehearsal room is wrapped by a stone skin pushed up from the rocky plinth. The theater and multipurpose volumes are different and finished with glass, respectively gold colored epoxy.

hollow rock

Between the parking in the rock and the villa we proposed two things. Along the plinth we integrated the passing road with a delivery zone for trucks and vans. The delivery zone directly connects to the storage rooms and workshop department that are further connected by wide service corridors to the four big rooms. On top of the plinth we planned the open air amphitheater. A big sloping wall in the rock serves three goals: as the wall of the parking, as the stairs that connects all parking levels with the building and as the seating for the amphitheatre. The glass tube of the foyer directly connects with the parking by puncturing this sloping wall.

no structure

The plinth acts as foundation, three meters below and three meters over ground level. It behaves like a natural stone plateau and can be built by standard concrete pillar-beam construction techniques. The floating roof can make considerable spans by the grid of five-meter high steel trusses inside. Our point of departure for the foyer level in-between is to design a clean space and to avoid any kind of traditional structural devices like columns and beams.

acoustics

The big rooms are acoustically separated from the rest of the building by the box-in-a-box technique. The inner boxes (silver for concerts and gold for theatre) all have their own foundation, separated by dilatations from the structure of the surrounding building.

ISLAMIC WEB VERSUS AMERICAN GRID © 2005

Arab Cultural Center Washington DC international architecture competition, USA

client: the Mosaic Foundation, McLean VA, USA

design: Monolab

team: J.W. van Kuilenburg with S. Fernandes, A. Hassouri

ISLAMIC WEB versus AMERICAN GRID

...Arab-Islamic architecture meets American grid city...

abstraction

The Mosaic Foundation is a non-profit organization founded in 1998 by the spouses of the Arab Ambassadors to the United States. Its goal is to aid women and children in their local U.S. communities and internationally, while building bridges of understanding between the peoples of the United States and the Arab World.

This international architecture competition launches the Foundation's efforts to realize a future Arab Cultural Center in Washington DC.

tradition versus modernity

The request for the finest traditions of Arab/Islamic architectural style in an American grid city is challenging. The center will be around 116.000 square feet (10.780 m²). It will offer flexible gathering areas, exhibition spaces and four departments: classrooms with research facilities, catering facilities, theatre and office space. Its location is a non specified plot in the downtown Washington DC area.

web

We followed the grid in the shape a low rectangular box. It has two passages with colonnades in the lay-out of a cross with a courtyard at its heart. The cross divides the building into four parts, one for each department. The two shorter sides of the box are fully glazed while the long sides and roof are covered with an Arab/Islamic 'web' that filters the (sun) light entering the interior during the day and the interior lighting radiating outward during the night. Apart from a filter, the web is a structural device, while it consists of many crossing structural lines.

heart

The heart of the center is the courtyard that has a floor bed with sand assembled from the Arab/Islamic countries in the world. Fruit trees can grow here, offering shade and filling the space with the sound of leaves.

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DEUS EX MACHINA © 2005

Parachute Pavilion international design competition, USA

status: honourable mention (10 awards, 864 entries)

client: CICD - Coney Island Development Corporation & New York City Economic Development Corporation

organiser of competition: Van Alen Institute, New York

design: Monolab

team: J.W. van Kuilenburg with M. Klauser, S. Fernandes, A. Hassouri

DEUS EX MACHINA

...the pavilion as catalyst by embedded technology...

generator of activity

This competition invited designers to generate innovative design proposals for a pavilion in the shadow of the famed Parachute Jump, an iconic reminder of the Coney Island heroic history, that is now a designated landmark. The pavilion is planned to be an all-season generator of activity. This competition invited designers to stretch the limits of what a pavilion can be, both formally and programmatically, connecting it to both the history and future of Coney Island.

no architecture

This future oriented active pavilion is not a 'building', it does not depend on architecture. Thanks to the Parachute Jump, its landmark, we do not need representation and style, nor decoration. It would be just in the way. We went beyond architecture.

interactive device

Coney Island was a technological paradise in its heydays during the 1880s.

We designed an interactive device that allows total flexibility in use. We consider it a tablet, a platform that adapts to wide ranges of use and users. It is able to accept 365 different activities, each day of the year or more often a new one. Users, individuals as well as collectives, can communicate with others, express themselves, and do their thing.

basin

The pavilion consists of a concrete basin that facilitates all kinds of services like a kitchen that functions together with a store and a flexible multi-use space as bar, lunchroom, restaurant and expo space. Technical and audiovisual equipment are embedded to supply heating and cooling, sound and lighting, projection beamers and lasers.

activity sheets

Two adjustable flexible activity sheets make the bottom (floor) and top (roof) of the pavilion.

The lower sheet is a programmable, flexible floor system, which makes different shapes: from a plane to a stepped slope or stair, from auditorium to arena.

The upper sheet rests on top of the basin and makes a programmable interior. It can be opened, lifted and folded by four hydraulic cylinders. A lifted top sheet as roof makes outdoor interiors in three ways: completely open, half open by a protective hot air curtain or protected by flexible, semi-transparent facades: retractable synthetic Kevlar-Mylar screens pulled out from the roof. In folded position it looks like a laptop, with projection screen and audience space.

LED's

Both floor and roof have led-matrixes over the complete surface to serve as projection screens.

Over time, the pavilion can be kept up to date by inserting and uploading new available technologies.

The pavilion as catalyst...

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A MAN-MADE ARCHIPELAGO © 2005

assignment: design based research Gouwe Node - RZG Zuidplaspolder

client: Province Zuid Holland, project office Driehoek RZG Zuidplas

design: Monolab

team: J.W. van Kuilenburg with S. Fernandes, A. Hassouri, N. Haim, B. Heijnen

traffic engineering: Goudappel Coffeng

A MAN-MADE ARCHIPELAGO

...an enormous treasure of programmable islands...

impact

The RZG area (triangular Zuidplaspolder between Rotterdam-Zoetermeer-Gouda) is the lowest polder area in Holland at minus 6-meter below sea level. The local government decision to keep pumping seepage from this low land, makes in into a valuable area. It will be redeveloped as part of the South Wing of the Randstad by a suburban spread with a respectful integration of soil, polder landscape, water and vegetation. Because of underground soil conditions the area is roughly divided into three parts, in the north stable clay, in the south low unstable peat and the 'water pearl' an area in-between the north and south zones settled on 'kattenklei', a rare clay mixture that filters seepage to crystal clear water. Monolab researched the urban development of the central area with the infrastructural Gouwe Node and two stations. The impact of air pollution contours with NOx, fine dust and also noise along infrastructural bundles is currently impossible to handle as a design issue, it results in European 'political fog'. We are proposing emission corridors therefore, reserving 60-meter wide zones around highways, to be developed by the next generation.

bottom-up & top-down

At this moment the RZG planning operation (30.000 houses, 500 ha business program and 200 ha greenhouses) is the biggest in Holland. In operations like these, supervisors plan by using big arrows, symbols and big colored spots on the map. The RZG soil and landscape however are made with original and for all small scale 'carriers'. The risk of erasing this contextual layer made us resist in a positive way. We integrated this fine tuned layer as foundation in our design.

Our position was defined by two issues:

1. we consider RZG not land cut by waterways, but inverted, as water covered with an enormous treasure of programmable islands. This island layout, the original 'DNA' or 'fingerprint' of this reclaimed and drained landscape is our instrument for an exact, fine tuned, contextual and structural carrier of spatial planning.

2. we consider the large scale infra in RZG not restrictive, but contrary as a generator for development.

This makes our design productive from two outer ends at the same time. Bottom-up by landscape-triggered urbanism with the fine-tuned island structure and its high potential for variable programming. Top-down by developing large scale 'infra-pockets' and 'multi layer nodes' within the framework of highways and rail systems.

islands

We took the original island structure and water system from 1850 seriously. Each island measures 385 by 34 meter, with an enlarged 6 meter wide zone of water around. This enlargement of the water surface is a necessity if we urbanise and mineralize the former landscape floor. The programming of the islands leads to many scales and variations in urban layouts, from small scale per single island to large scale per clusters of islands, from romantic to business-like, from natural to synthetic. We developed a toolbox, testing the physical as well as the programmatic capacities of islands. The toolbox as instrument leads to a variety of urban layouts.

layouts

The layouts are made of four categories: residential program, commercial program, public program, and recreation & landscape. By our toolbox we generated four basic layouts with two extremes: 'classic' (traditional city blocks as residential clusters with an edge of service program) and 'freedom' (a free mixture of individually programmed islands). In-between we designed the layouts 'barcodes' (strips of program in east-west orientation) and 'flow' (a meandering river or delta of service program in big fields of housing). The adoption of the barcode layout as main principle makes sense. The layout of original occupation patterns in RZG has a linear orthogonal character with its original north south roads and east west canals. The barcodes make this distinction respectively as well between north-south (maximum programmatic variety) and east-west (maximum programmatic use).

infra pockets

Within the central infrastructural area we defined five enclaves, completely surrounded by heavy infra and too small to adopt the island layout. Large scale urbanism is unavoidable here. We propose heavy programming by a leisure center, business program, recreation, commerce, distribution and residential program. Defined as infra pockets these can be compared to small scale 'La defenses': lifted decks with infra below and urban program on top. Programs can switch between these two spheres. Highway bundles will be bridged by the decks, forming envelopes around the emission corridors. Electrostatic filter systems will control emission.

stations

Two stations are planned: the west Doelwijk Station at the nodal point of canal, local road and bundled train- and metro system, the other east Westergouwe Station in the east tip of one of the infra-pockets, in the split of rail tracks.

multi layer nodes

In several locations we deliberately concentrated national infra, local infra and waterways in points, to generate stacked nodes. These points are keys to read and understand the RZG area. To boost our notion of RZG we propose to apply 'transparent' infra by using steel grills as bridging road decks. In this way we can clearly display the original soil materials, techniques and layouts this land is made with.

OPEN NEUTRAL ENVIRONMENT © 2005

ACC Cultural Center Gwangju City international design competition

client: Gwangju City, South Korea

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Pena, U. Rathgeber, B. Heijnen

OPEN NEUTRAL ENVIRONMENT

*...an open, permeable and neutral environment with a network of five co-operating systems, delivering one democratic cultural field...***one democratic cultural field**

If a big movement like the Gwangju Democratization of 1980 can bring democracy, the large flows of citizens and visitors of this 145.000-m² program can bring us the concept at the scale of this cultural center. We designed this ACC with only three levels (city floor, interface and roof), flat in volume and covered by a peaceful landscape. To avoid a building with divisions, it is designed as an open, permeable and neutral environment with a network of five co-operating systems, delivering one democratic cultural field. To construct a real open, accessible, democratic, communicative, transparent, decentralized, interactive, adaptive, developing and easy-to-build ACC, we made our design as neutral and simple as possible. The design has no direct representative symbolic shape. Its value is embedded in the way it operates, by the freedom to experience culture. A transparent and humble architecture facilitates this project with openness and clear visibility of its cultural production, exchange and marketing.

hub

The project is generated as a hub for Gwangju in three ways: it links to Gwangju by its limited height, by the uninterrupted pedestrian network connecting to surrounding streets and by its interior, an open environment with smooth clusters of pebble shaped rooms that resemble the Gwangju urban typology of city blocks with dense clusters of smaller volumes. It is linked to Korean Culture by the use of the five colors of Taoism and by the unity and decomposition of a city block (mosaic of building parts) at the same time. It is linked to neighboring countries by the four peaceful and natural Asian gardens on the roof scape.

public space and cultural assets

The center of the complete project, its heart, is made into a public square. It becomes part of the pedestrian network that connects to the existing Gwangju street system. By reserving circular open spaces, the nine cultural assets are integrated within the public square, which gives them unique positions and strong relationships, a condition that intensifies their importance. We programmed Sangmookwan to be the Visitor's Service Center. A glass tube brings the visitors to the foyer on +1 level. At the same level we propose to make a connection passing the square, through the Police Administration Main Hall and Public Service Center. We also propose to take out the floors and roof of the Main Hall of the Police Administration Building. The void could then serve as an impressive (ceremonial) space with glass roof and a big public stair to the park on the roof. The Public Service Center of the Police Administration Building can serve as a monitoring room with Supporting Facilities.

city floor + interface + park = open environment

The project is simultaneously a composite whole and a mosaic of parts. Connections and interactions are of vital importance. The three levels together make one open communicative environment:

1. The project consists of parts at ground level (city floor). It is permeated by the existing street pattern crossing the site. The parts are made by pedestrian streets that are accurate continuations of the existing Gwangju street pattern.
2. The first floor (interface) is an active floor field that makes the major connections between the levels. It is perforated with atriums that follow the pedestrian street pattern.
3. The roof (vegetation) is a continuous surface as well. It is warped a bit and perforated with many voids to bring light and fresh air into the rooms below. It is a natural public park, a roof scape with four different gardens in each direction. A Korea garden with a botanical tree plantation for the children to the North, A China bamboo garden to the West, A Japan pebble garden to the East and an Ocean garden with shiny bleu solar panels to the South.

network

Five dedicated systems work together as one network and take care of flow and links within the complete ACC:

1. Wild Cores and Elevators. All departments have at least one elevator. The wild cores, rooted in the city floor like old trees, connect all levels with stairs and services (ventilation ducts, pipes, cables). The differently shaped cores are meant to deliver structural stability, efficient connections (stairs on inside and outside) and architectural identity.
2. Interface. The +1 floor connects the three levels by voids and by ramps (parts of the floor that are flipped up and down as sloping connections).
3. Circuit. A simple ring shaped circuit around the square serves the +1 level with visitors and experts in culture, marketing and entertainment. From this ring, radial paths connect into the departments.
4. Children Museum Loop. It is suspended on the +1.5 level and defined by a bright orange-coloured epoxy coating and glass partitions. Children are the future, we planned the Children Museum to be one of the most important parts of the ACC. The Children Museum Loop runs as one dedicated circuit connected to all departments. It also connects to the roof where we planned the big outdoor space and a botanical plantation of Korean trees, to be planted and maintained by the children. The Loop is big and exciting, behaving like a snake and bringing children through and along all different departments. Along the Loop, dedicated rooms in different departments can open up glass screens to invite the children of various ages for events like mini exhibitions, presentations, discussions, games, recreational activities, etc.
5. Park. A free flow organization gives the park at least one dedicated link to the center of each department. A big public

stair through the Main Hall of the Police Administration Building connects the square to this park.

interior open layout

The floors are spread out like urban fields and the interiors are quite deep. For this ACC, programming is not a standard issue like organizing rooms along corridors. Instead we organized program by spreading the rooms in clusters. As a result, rooms are positioned in an open lay-out, like pebbles in the streams of visitors and officials, like flocks of birds, shoals of fish or clusters of cells. We gave most clusters of rooms one or more important key rooms as center. These key rooms are also part of the circulation space are equipped with glass windows or patios in the roof that bring daylight in the darker parts of the floor fields. The free height over the main floors is around six meters. Mediating in-between floors are suspended for the smaller and lower rooms. To achieve maximum openness and transparency, all vertical surfaces and facades are made of different types of glass (anti-reflective, slightly coloured).

structural stability

The structural stability of the complete project can be handled in a very simple way because of its limited building height. The ACC consists of eight buildings made by the street pattern. All parts take care of their own stability, sideways held by the wild cores (strong lines) and vertically by the 12-m spaced columns. Connections between the buildings are detailed like bridges with sliding connections between floor fields. In this way the project can easily resist earthquakes.

services

Services (all ducts, pipes and cables) are transported horizontally within the 1.25-m floor zones. Vertically, services run through the wild cores that are over-dimensioned to hold escape stairs including service channels. Each of the eight buildings is supplied with its own energy cell / HVAC-unit in the roof gardens, like glowing colourful houses.

transparency

Instead of a building that takes space and creates rest space around, this ACC environment avoids obstruction. To maximize transparency, to make facades disappear visually, exterior and interior facades are made of insulated, respectively single glass sheets from floor to floor. The big glass sheets are mounted at top and bottom. The stability structure behind (horizontal blades suspended between the floors with diagonal spacers) is made of brushed stainless steel. The glass sheets are joined by simple black silicon seams. To close rooms visually, screens and curtains are used.

logistics, parking, metro

The 2 x 4-lane ACC ring road has two side lanes along the sidewalk in each direction, dedicated to busses, taxis, kiss & ride and for the entry & exit of the public underground parking. The parking at -1 level is simply connected to the existing one. The two entry points to the metro stations are integrated in the project.

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URBAN MOSAIC © 2006

client: Stadshavens NV, Rotterdam

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Pena

URBAN MOSAIC

*...a variety of urban typologies on peninsulas by a mosaic of combinations...***tragedy**

Rotterdam is going through a tragic period since the 1970's. It is missing middle and higher income groups, it has a wide-spread social segregation and it is still parasitizing on the notion of what was once considered to be a city of architecture. What actually happened in the architectural field in the last 25 years? Devastatingly little...

potential

At the same time an enormous potential is released by the redevelopment of former harbor territories that are in a process of high speed transition by the city council. Unfortunately the market has realized weak infills of brainless, standard developer's schemes. The Kop van Zuid and Mullerpier are exemplary of urban planning methods in which looking ahead is considered a taboo.

monster organism

Another chance is currently offered by the Stadshavens area. Its position, far from the city center, implies an autonomous character that instantly and completely has been weakened by the city planner's nostalgic notion of 'connecting city and harbor'... This of course is an illusion. If something moves at an enormous scale it is 'the Rotterdam Harbor', a 24-7 monster organism, with ten heads and dangerous tentacles, which moves at high speed through the digestive channel of the river westward towards deep water. The second Maasvlakte is located at sea as the ultimate platform for 'the harbor that has released itself from Rotterdam'.

the city that boldly looks ahead

Stadshavens also has a massive scale, five to seven times the Kop van Zuid area. Location and scale of Stadshavens made us decide to see it as an autonomous project with its own qualities. If we consider the spatial development of Holland (everywhere more of the same), it offers Rotterdam, at last after 25 years, a re-occurring position of 'the city that boldly looks ahead'. Stadshavens could become a reserve for kinds of urbanism and architecture that have no chance of survival anywhere in Holland and that can grow and exist only here. Harbor cities all over the world, although these are developing their former harbor territories in somewhat different ways, all look more or less the same. The Stadshavens reserve with its own borders and its own interiors can deliver so much more...

mosaic

An autonomous look onto the Stadshaven area with the right frame shows an enormous collection of peninsulas and piers, well situated along the river. All water in the center of this area is very separative. The planning of the Stadshavens project office defines every pier and peninsula as another extension of existing urban territory. In this way Rotterdam continues to glue extension to extension to extension...

Exactly this is the reason why we propose to link the concept of the reserve to the wealth of this archipelago.

To counter tragic Pavlov thinking of market parties we made a matrix of three basic groups (12 kinds of 'public spaces', 8 kinds of urbanism as 'urban clusters' and 12 kinds of service programs via 'big architecture'). It delivers over 900 new combinations of urban typologies. Big Architecture would preferably not be designed by the so-called 'star architects', but by young architects that have things to prove and have more contact into our developing culture.

An example. A pier is planted along its quays with three rows of 'Dutch High-rise', towers of limited height. The towers are positioned to allow free views over the urban river landscape. Public space is a sea of flowers that renews itself every season with typical flowers, from sunflowers to crocus, from poppy flowers to rocket lettuce. The center of the pier is taken by local 'big architecture', an old supertanker, a 400-meter colossus assembled in parts on land and reprogrammed with public activities like a hotel, food cluster, congress center, swimming paradise, library, studios, etc.

A real characteristic in the Stadshavens area is the cranes along the quays as a leftover of the pre-container era. A crane museum with restored cranes spread along all quays of the peninsulas will bring visitors, activating the area.

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GRASS HOUSE © 2006

'Simplicity - less is more', Almere International design competition

client: de Fantasie, Almere

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Pena

engineering: Multical, Rotterdam

GRASS HOUSE

...the cheapest and most simple house in The Netherlands...

soil

To live cheap in a typical Dutch polder, on the former sea floor, living inside the soil and in the flat landscape make the biggest challenge.

tube

We took a basement as starting point. Not in an underground position, but placed on grade because of simplicity, low budget and the close underground water level. The landscape is lifted as well. We made a concrete box, opened up at both ends. This tube is fully embedded in the landscape by a grass deck and two slopes. The sloping sides make it in to a dike... The house is not only embedded in the context, but within Dutch culture as well: it is very cheap and it is a dike house.

cross

The house is designed for an individual or a couple with no kids. To make the tube perform properly it is important for it to remain functionally open. At grade a cross is made in the east west direction, while the landscape is intersecting overhead in the north south direction. This provides a functional and open interior with changing daylight throughout different times of the day.

glass, grass, tent

Within its profile, the house changes three times through the application of three materials that make three types of architecture: the concrete tube with grass deck, a glass house and a flexible tent. The tent and glass house are exterior spaces at both ends, the tent on the warm west side and the glass house in the morning sun on the east side. Around noon the interior in the tube is shaded to avoid heating up. This orientation creates a good interior and exterior climate. The third exterior space is located on top with wide perspective views over the surroundings.

open

To keep an open plan we organized two issues. All service program that would disturb the open interior are assembled in a wooden service zone along one of the long walls. For programs that need visual separation we arranged five curtains that vary in size and location. The combination of the open plan and the curtains provides flexible use of space and spatial quality. The curtains that have natural prints like water, bark, leaves, bamboo and sun flowers, are envelopes for sitting, dining or sleeping. These activities can change place (and curtain). The service zone contains the entry, heating equipment, kitchen, sanitary unit with shower and a washer dryer combi.

standard detailing

The house can be constructed with standard techniques and standard detailing. One detail only, the roof edge, is sufficient for bidding. Materials are simple. The grass cover has deep roots, triangular end walls are rough sand stone blocks, the glass house is made of standard aluminum profiles with single glass. The tent is made of a light tubular frame and reinforced orange fabric. The two sliding windows on each side are made of anodised aluminum. The concrete edge around the facades is prefab standard grey concrete, representing the tube behind. The concrete tube is constructed like a basement of prefab elements. Integrated floor heating avoids the use of radiators or convectors that would block the open plan. The floor is polished concrete treated with oxaan oil that gives a 'marble' dust free surface. The service zone is made in wood, finished with okume multiplex. The aluminum curtain rails are curved by hand and mounted directly onto the concrete ceiling. The curtains are made of cheap, semi transparent fabric.

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THE WHITE FIELD OF STONES © 2006

Norwegian Tsunami Memorial - International design competition
client: The National Foundation for Art in Public Buildings, Norway
design: Monolab
team: J.W. van Kuilenburg with T. Iwashita

THE WHITE FIELD OF STONES

...a memorial for the Norwegian Tsunami victims...

In the wake of the Tsunami disaster in South East Asia on 26th December 2004, the Norwegian Government has put 'The National Foundation for Art in Public Buildings' in charge of a memorial site in Norway to honour the victims. The purpose of the site is to be a space for mourning and contemplation for those who have experienced dramatic events in their lives. The memorial site is to be an art/architectural project. It will be located somewhere on the Western shoreline of the Bygdøy peninsular in Oslo, Norway, and it is to be visible from both land and sea. This area, with its beach and its varied topography, is used all year round for outdoor activities.

The design 'the field of white stones' helps relatives and friends to commemorate the victims in different steps. Four conditions make the monument a place for contemplation, to come to terms with sorrow and grief:

1. A fragmented field of white stones on the sloped part of the shore, visible between the trees. This is a place to look towards the sea, protected by the trees and by the hill in the back.
2. The fragmented field continues in the water. A path of black concrete with basalt rock (fit for wheelchairs) leads to a stone raft.
3. The raft is surrounded by shallow water. It is a stable base to look back to the land and forth to the sea. It consists of grouped white stones, assembled in black concrete with basalt.
4. Towards the sea is a vertical screen with voids. The voids, or openings, mirror the stones in the raft. These are all unique, symbolizing the (souls of the) victims.

The monument has a zero ecological footprint, all materials are natural and will last for centuries. The white stones and the screen are made of white fibre prefab concrete. The raft and screen together make a space for memorial services where visitors, individuals as well as families and groups, can reconcile past and future.

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EMO HOUSE © 2006

Shinkenshiku International design competition: the plan-less house

client: Japan Architect

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Umemura, A. Kret

EMO HOUSE - THE FOURTH ROOM

*...an environment for analysis...***emotions**

This house goes beyond description. It is an instrument to analyze the characters and behaviors of its residents. Not passively by evoking emotions as an average result of neutral space forms or applied materials, but actively. An assemblage of five totally different elements (four embedded devices that split emotions and a central space that synthesizes emotions) makes it into an advanced and precise instrument for psychic analysis. The house assists the residents in a process of awareness and completion.

super natural space

A part of a garden is excavated and held with a retaining wall made of local stones. The place is surrounded by, embedded in and subject to nature, animals, trees, plants, sun and climate which makes it into a space for the residents in their emotionally balanced, supernatural state. The house can be built anywhere, the garden will grow with local climate, plants and animals, from rainforest to desert, from prairie to mountain range. The super natural space is located between the four devices that are buried in the surrounding soil.

assistants

The four devices are carefully designed assistants to split, fathom, survey and evaluate the four human basic emotions: anger, sorrow, fear and joy. All assistants in this house are fundamental spaces, each one designed and tuned for splitting off one specific emotion through a dedicated space shape, material, color and specific contact with the outside world. As a result of the emotional state in each device, specific parts of the body will make contact with specific parts of the devices. This makes materialization very important. All devices are fit for longer stay, each one holding a small kitchen, sanitary unit and place to sleep. All are fitted with an entry & exit door, which gives the house four entries & exits in total. The anger device is made of a vulnerable (repairable) paper cylinder with three service pockets behind. The sorrow device is a cave of purple polished natural stone with four dimmed sky lights. The fear device is a completely white diffuse space, with rounded corners to avoid any orientation. A big door contains the service modules and mirrors the person at the table in front. The joy device is holding the resident(s) in a white, warm, leather 'hand' with a glass top that can jump open: space and garden become one.

the house as instrument for analysis

The life pattern of the people living in the house can be recorded and/or reminded by the super natural space as they move (sub)consciously from device to device as a result of their emotional status. The residents will be able to analyze their behavior and character with the help of their flow patterns. Every use of the devices, every determination, hesitation, doubt, etc. will be available for analysis. What to think of entering through the fear device, inviting friends to have dinner in the anger device, then drink a cup of tea in the fear device after a phone call of a relative, read a thriller at night in the sorrow device and sleep in the joy device...?

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PROJECTION HOUSE © 2006

Shinkenshiku International design competition: the plan-less house

client: Japan Architect

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Umemura, A. Kret

PROJECTION HOUSE

...a living space organized by real life projections of nature..

update

This house is an update on Plato's cave, organized by real life projections of nature which have a strong impact on the residents living inside and the use and lay-out of the plan. The interior is captured in-between 'the natural world' and 'its projections'. The projections are real time and are made by a lens of water. The complete interior is white, as a neutral projection screen, embraced by a zone with service program.

excavation

The house is a void, a square excavation of 14 x 14 m. in a garden. The floor is made of white, silent rubber and the sides of white semi-transparent polycarbonate sheets. A stair parallel to the South side of the void makes an entry and exit that leads to the center of the space, looking North with the sun in the back. All services like furniture, kitchen, sanitary facilities, guest room, bed, etc. are embedded in the service zone and can be pulled out and moved around in many constellations. A Mylar reinforced transparent 8-mm epoxy sheet covers the void and makes a strong, invisible container for rainwater.

lens

Sheet and water together make a lens. During daytime the lens is an enhancer, projecting moving shadows and reflections of animal and plant life into the complete interior. Above in the garden, the water surface looks like a pond that reflects the sky. The service zone receives light from the central space through the polycarbonate partition. During night time the water, and everything in it, is strongly up lit from the white interior below. The shiny belly of the curved sheet reflects the interior. The service zone has now become a projection screen because of its internal lighting. Seen from the big living, all shadows of objects and people in this zone are projected onto the partition.

eco system

The mass of water is an eco system for plants, fish, birds and insects. It will be under continuous change. Small fish will clean the lens from algae. The shape of the sheet is pre-formed to follow the load of the water. This allows only for tension forces in the sheet and no other supports other than the concrete box that holds the edge.

detail

An aluminum extruded profile is mounted in this concrete edge. The section of the profile is shaped to hold a steel cable. The Mylar sheet is folded around the cable and impregnated with transparent epoxy on a wooden mould with scaffolding. The cable is pushed into the profile and the remaining space inside the profile is injected fully with epoxy. After the epoxy hardens and scaffolding is taken away, the sheet can be filled with water. An overflow prevents the water level from rising over the profile.

projections

All projections have time-related impact on the use of the space and the ever changing lay-out, followed by the moveable furniture. Plant life has seasonal impact, sun and moon have daily impact and the momentary impact will be animal and human life. The center of the lens is bulging down into the interior to the horizon of the eye and can be touched.

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WEBBING © 2006

Flowpolis International design competition

client: COAC - Colegio de Arquitectos de Canarias

status: 2nd prize

design: Monolab

team: J.W. van Kuilenburg with T. Iwashita, J. Umemura, A. Kret

WEBBING - SOFT URBANISM

...a weaving of natural and urban flows..

super context

By developing the project area between business park, harbor and airport it is impossible to deny the morphology and landscape qualities of Gran Canaria. Our objective is to enhance these original qualities and to distil clearly defined territories for urban programming and landscape. Our proposal delivers a rich network by the interlace or 'webbing' of three super contextual territories:

1. Natural flow by 'landscaped riverbeds' directed east-west.
2. Urban flow by 'plateaux' along the north-south altitudes.
3. Current agricultural 'pockets' embedded in-between the two flows.

riverbeds

The riverbeds are perfect natural carriers to connect the coastal area with the interior of Gran Canaria. While most of the year the rivers remain dry, when flowing they follow their current natural paths, of which some need restoration. We clearly define and protect the riverbeds by excavating 4-5 meter of soil with a water flow in the center. We re-use the excavated landmass to build up the plateaux.

plateaux

Each plateau can have its specific, dedicated urban typology. We applied some typologies in order to research the impact on a smaller, architectural scale.

network

It is obvious that a contextual network is made by riverbeds and plateaux together. Within this network the local authorities can decide upon their preference for certain urban typologies.

infra

The road system is densified in a natural way by upgrading the existing roads and by an extra major parallel road on the east side of the motorway. An efficient 'infra grid' starts to develop, serving the network.

crossings

The plateaux are crossed by the riverbeds. At these crossings the riverbeds are transformed into public parks. The crossings are bridged by roads with 'transparent' steel grills, uplit at night.

piers

We avoid high volumes, considering that Gran Canaria is too vulnerable for a typology of towers and slabs. Instead we put towers horizontally, floating flat in the water, like programmed piers connected to the coast. We designed groups of piers where the riverbeds meet the ocean.

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KENGARAGS VALLEYS © 2006

Kengarags Daugava Waterfront - international Architecture and Urban Planning Workshop

client: Riga City Development Department - Latgale District Directorate

design: Monolab

1st prize ecologic environment and landscape

2nd prize redevelopment Sarkanais Kvadrats factory

team: Jan Willem van Kuilenburg with T. Iwashita, D. Gurecka, L. Potjomkina

KENGARAGS VALLEYS

...a natural flow strategy for Kengarags, or how to merge public space and river...

remote ideas

Preparing the first ideas in Rotterdam before heading for Riga we expected that most buildings in Kengarags would be demolished in order to redevelop the area.

surprises

Soon after arriving at Riga it became clear to us that Riga will be a city of two parts. First that Riga is a park with buildings and second that all Kengarags buildings will be kept and renovated.

two cities

Riga is two cities, split by the Daugava River. The West part is fit for future power urbanism (*...the sky is the limit...*) and the East part, including our Kengarags district, for historic urbanism (*...handle with care...*). We consider this a very clever strategy and it made us proceed with caution in designing a conscientious, sensitive scheme for Kengarags.

landscape

Because Riga is very green, we see Riga City and Kengarags, our project area, as 'a park with buildings' ready for enhancement and activation. We extended the river deeper into Kengarags by digging shallow 'valleys' with natural flow of water and communal outdoor activity platforms. We extended Kengarags to the river by depositing excavated soil to form three islands near the riverbank. The positions and sizes of these islands are determined by the river itself: marshlands are already formed by the paths of the currents. The islands have two 'faces'. One first shallow face has a lagoon with beaches towards the promenade. The second deeper face which is on the riverside has maritime sports. We consider the river scenery vulnerable and we do propose to avoid the use of floating homes or anything else that would disturb the views. Riga has plenty of territory for residential program anyway. The current promenade uses nature as a romantic zone to create space that is very friendly to people. Although we add lighting here and steel grill bridges over the valleys our scheme keeps it intact, as any design would destroy its present character.

public space network

We made a 'Public Space Network' of valleys together with Promenade and Maskavas iela (Moscow Road). Important program can be placed on nodes or cross points in this network. We placed two programs on Maskavas iela as public passages. Decks with ramps on both sides make space for programs.

kindergarten

The first project is a proposal for a Kindergarten at the north crossing of Maskavas iela. Its valley connects to the nearby school complex. Children can cross Maskavas iela safely and play on the top and the slopes in summer and winter. Below the ramps we locate active spaces for musical theatre and dance school.

Cultural Arts Center

The second project is the south crossing of the Riga CAC, the Cultural Arts Center. As an architectural translation it branches off from one of the natural valleys. Below the west ramp we placed the library that connects to the main volume via the public square over Maskavas iela. On the east side we projected the actual cultural part which included the auditorium and the remaining program.

Sarkanais Kvadrats Project

Project Three is our proposal for the Sarkanais Kvadrats Project. We took away all low and rundown buildings unfit for renovation. A perforated deck at 6 m+ connects all buildings and makes space for a service level, the entries and stacked parking at ground level. Around each building a 5-m transparent zone brings light and air down. Several programs are embedded below the deck, like a health club, dance club and reception areas, arranged by various perforations. A new series of volumes with different views over Daugava River are aligned along the West edge. The zone along the promenade below the deck can be animated with restaurants and cafes overlooking the river scenery.

MARITIME NETWORK © 2007

assignment: Vision for Afsluitdijk

client: Office of the State Architect, Ministry of Spatial Planning VROM, Rijkswaterstaat and V&W Department IJssel Lake Area - Board for Roads and Waterways

design: Monolab

team: J.W. van Kuilenburg with K. B. Bald, P. Faleschini, F.J. Casas Cobo, B.Villanueva Cajide, A.C. Wright

MARITIME NETWORK

...a future oriented vision like this demands a specific mindset, a way of thinking directed by developments. Seven robust long-term conditions¹⁾ are leading us into the design of an archipelago network with islands and water parcels within three ecosystems (salt, brackish, fresh), in which recreation, aquaculture, housing, commercial program and a University for Coastal Zones operate in close harmony...

maritime landscape

The invisible seafloor of Wadden and IJssel Lake and the current shipping lanes define a 'maritime landscape' and a meaningful carrier of our layout. This design is a translation into an archipelago of three ecosystems: salt (Wadden), brackish (UCS University Campus) and fresh (IJssel Lake).

network

All recreative, scientific and commercial program is organized in compact enclaves (islands and water parcels), with a maximum variation parallel to the dam and maximum functional use perpendicular to the dam. They co-operate in an optimum through a network made by the dam in a central position with current motorway, new parallel road and ten interfaces and by a number of transport systems on water on behalf of recreation, maritime 'bio-industry', housing, commercial property and a university. The ten interfaces consist of roundabouts suspended over the motorway linked with many ramps. The interfaces take care of parking, exchange of vehicles, cyclists, pedestrians and public transport systems between motorway, parallel road and water. Linked floating platforms, piers and jetties connect land- and water program. Some heavily programmed islands have dedicated links for vehicles from the dam over elevated roads. The planned rise of the dam by 1,5-m is made by a quay on the IJssel Lake side. Although a quay is more expensive, the motorway can stay and on the quay sufficient space is available for the parallel road and the bicycle path.

distribution and traffic

Transport of goods and people takes place with carrier ships and public transport systems: powerboats, water busses, hovercrafts and amphibian vehicles. Also floating jetties and piers are in function. The residents of this maritime zone will use private rafts, preferably propelled by compressed air and electricity. It is important to avoid anaerobic conditions. This makes big, fixated floating platforms impossible as these would stop solar light and movement of water.

islands

The islands are very diverse, each one its own identity and quality. The use of islands prevents spilling because reclaimed land is not in stock. A pure example is the dense programmed 'Split City', two islands at a 22-km distance on both ends of the zone: together 'a city with no periphery' that consists only of downtown program. Within 15 minutes connected through powerboats racing at speeds of 90 km/h. Two more islands are functionally programmed as shopping enclaves: medieval urban tissue of four floors with living in the top and shopping in the lower levels. Islands with programmatic 'depth' like sports facilities, entertainment, extreme sports, maritime restaurants, a food market, campsites, hotels, clubs, city blocks and villa parks have spread positions through the layout of the maritime landscape.

water parcels

In this constellation also the water parcels for aquaculture are located: protected by low dikes and serviced by cleaning installations and harvest stations. They also operate as monitoring stations of the university. In this way industrial aquaculture and university co-operate closely. In this variable layout islands and parcels create their mutual existence and locations. A necessity for the quality of the ecosystems is a zero ecological footprint of all islands through purification of waste and sustainable energy systems. To achieve this we propose an abundance of sewer systems between islands and the shore. A challenge for the maritime research in ecosystems are the issues of impact of fishery, pollution and climate variations and the internal dynamics of the ecosystems. Many layouts can be planned and designed, our scheme is one of these, depending on economy, government, market, planning, finances and cultural conditions.

¹⁾ Seven robust longterm conditions**1. the Wadden area will develop**

The Wadden area is made by human activities. It is a necessity to consider the interventions in this area in a historic perceptive. The Romans already dug a canal to link the rivers of Rhine and IJssel. The Romans dug the canal 'Fossa Drusiana' from 38-9 b Ch. between the rivers Rhine and IJssel to be able to move quickly North. Additionally they forced extra Rhine water to the North to construct a natural barrier between themselves and the barbarians. This developed in a fast growing Flevo Lake: the large scale human intervention has started. After this many interventions followed up during centuries. The questions is not if, but how we are going to intervene...

2. growth of tourism leads to a double coast length

Tourism, mondial and European, doubles between 2007 and 2020 (source: UNWTO - World Tourism Organization). This enormous growth indicates the need for extra facilities in Holland. Stretching the coast line outside the Randstad zone (Scheveningen-Den Helder) is a necessity. In our layout the Dutch coast length is multiplied to a 240-km length and supported by a more varied program.

3. climate change leads to a University for Coastal Zones

The Dutch Meteorological Institute KNMI, calculated with four scenarios a warmer Dutch climate and a rising sea level. The climate will develop towards a more Mediterranean mode. Summers and winters will be warmer with much more showers. This has an impact on the draining of overflow water into the North Sea. The conditions of the Dutch coastal zone combined with the experience in maritime coastal defence makes Holland into a favourable epicentre for a European University for Coastal Zones with its campus in the Afsluitdam zone and with a global importance for all populated lower coastal zones. The future surplus in draining the overflow of the IJssel Lake into the Wadden introduces a third (brackish) eco system. Halfway the dam a series of shallow areas can be combined into a more or less circular campus of about 7 by 5-km. If one location is fit for a European University for Coastal Zones it is this one, right on the overlap of three systems and served by major infrastructure.

4. development of archipelago

In our scheme the seafloor of Wadden and IJssel Lake is thoroughly researched. Shallows are translated into islands, deeper parts are made into parcels for aquaculture, delivering a maritime landscape.

5. development of aquaculture

From 'fighting the water' to 'co-operating with water' can lead us to a developing large scale aquaculture with eco-certification. Globally the consumption of fish products is rising steadily. Because fishery is stagnating, this rise will be dealt with by cultivating fish. Aquaculture is the fastest growing primary food segment with a 9% growth per year (United Nations - Food and Agriculture Organization). We find ourselves on a tilting point: first in history we consume in 2007 as much cultivated fish as caught fish. Aquaculture delivers food and non-food products. Apart from fish, crustaceans and shellfish we have to focus on vegetable products in silted coastal zones. The two ecosystems in our layout are made fit for aquaculture, in order to produce natural products for the food- and pharmaceuticals industry on a commercial scale. Fish, crustaceans, shellfish and maritime vegetation are produced in parcels. One part for direct consumption, the other part for raw products, and also part for restoration of the biodiversity and bio levels.

6. development of the North Netherlands

Increase of activities and labour can change the stagnation in the Northern part of Holland. A new way to map Holland is to consider the 'IJssel Lake Ring'. We can link this ring to the Randstad Ring via the Amsterdam city ring. The IJssel Lake Ring develops more slowly compared to the Randstad Ring by much more free space for future programs. The Afsluitdijk is the vital Northern link and a bipolar gravitation point together with Amsterdam.

7. the capacity of the afsluitdam zone

The huge dimensions of the Afsluitdam zone display an easy absorption of big events like the Olympics, a World Expo, an airport or a University Campus.

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PROCESSOR © 2007

architecture competition for a new residence for the Rotterdam mayor and his family

client: 'BNA Rijnmond office' and 'Rotterdam 2007 - City of Architecture'

status: 2nd prize winner

design: Monolab

team: Jan Willem van Kuilenburg with A. Chlebinska, E. Komarzynska

PROCESSOR

...a platform, situated on the Rotterdam urban horizon, integrated within -and balancing on top of- the city hall. Mayors of middle sized European cities live in a turmoil of political, corporate, cultural and private life. The residence operates in flexible ways between these four conditions like a multi core processor...

test field Rotterdam

1. If one issue deserves a radical and future oriented approach, it is 'the mayor's residence' that is still subject to traditional thinking.

2. If one Dutch city can be a test field for this new approach it is Rotterdam, where the moment has come for the city to get priority over the harbor.

processes

Instead of a representative architecture we developed an architecture of processes. We designed a processor, a platform integrated in the city hall on Rotterdam's main boulevard, the Coolingsingel. It balances on the side rooftop. The current monumental entry and foyer of the city hall lead visitors and guests to the existing classical stairway with a new elevator shaft. This trajectory leads to the processor, a platform of two floors: a flexible interior below and on top a sky deck with 'hortus conclusus'.

Our design has four important qualities:

1. a clearly visible location in the epicentre of Rotterdam, at a height where the city is currently densifying,
2. a mix of four processes (politics, business, culture and private life) which is serviced by four cores,
3. internal programmatic flexibility by moveable separations and a flexible auditorium,
4. communication through a flat screen facade all around.

integration

The processor is integrated in the city hall in four ways:

environmental

1. It does not need a new plot of soil,
2. The patio can be opened and delivers solar warmth in winter and ventilates and cools in summer,
3. The passive climate in the processor is supported by a heat exchange unit that utilises the accumulation temperature of the solid city hall: coolness in summer and warmth in winter. The exchange unit, a metal technical 'filigree' pattern filled with cooling fluid, covers and changes the architecture of the inside of the historic stairway.
4. Electricity is generated by solar cells on top of the processor roof.

security wise

Apart from the entry spaces and stairway, also existing security and distribution facilities of the city hall are utilized, a kind of programmatic spatial re-use.

programmatical

The interior is managed by four cores: 'entry' (with service program), 'food' (kitchen serves all), 'office' (media core) and 'culture' (auditorium-patio as main link). Like bases they generate a maximized flexibility and freedom through moveable partitions. Zones can shrink, grow, overlap and separate. The platform in operation is like a fluid with continuous changing qualities. Its downtown position admits the Rotterdam population makes the residence itself into 'the fifth core' as its facade is finished with flat screens, communicating texts and images around as a medium for the mayor.

structurally

The processor is stabilized by a series of six, tuned Vierendeel trusses. Some of the vertical members, 'columns', are shifted to improve the floor plan. In the facade zone the trusses have mutated into big trusses with diagonal members. The processor is placed on top of six triangular steel frames that are integrated in the attic of the city hall.

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SHOW ME FRYSLAN © 2008

Gateways to Fryslan architecture competition

client: Province of Fryslan and Foundation Passages

design: Monolab

team: Jan Willem van Kuilenburg with P.R. Rzepecki, J. Biedna

SHOW ME FRYSLAN

...accentuating the access roads into Fryslân with landmarks...

CLOUD AND EARTH - site A32 Wolvega

land reaches up from the water as a terp

the sky reaches down as a cloud

terp and cloud together are an amplifier of the senses, mirrored in the water

the visitor experiences the Frysian landscape deeply

The terp has been shaped as a sloping surface. The slope makes the entrance to the cloud.

Inside the cloud an experience space has been excavated.

The void enhances the experiences for the visitors as a sensitive eye. Glass screens protect from falling. The water basin mirrors the complete cloud. The volume of the cloud is made of eight millimeter unfinished aluminum, that needs no maintenance and will not corrode. Within a few months it will become pale grey and it will lighten up in direct sunlight. The cloud will be built like a ship. All connections are welded, grinded and polished to give the skin an abstract finish. In length seven blades take care of the structural span from end to end. The blades are connected by the skin with non visible dot welding. LED lighting is integrated and energy is supplied with integrated and invisible solar panels on the topside. Laminated glass sheets, placed directly inside the aluminum skin, protect the visitors from falling. The cloud is transported in one piece and put on its foundations with a mobile crane.

FRAME - site A7 Afsluitdijk

A stretched abstract volume is balancing on the Afsluitdam, marking the Frysian border.

The volume, a frame suspended over the motorway, rests on top of the dam and has a void for visitors. This big void, an eye, is a carefully designed space that directs and intensifies the senses of visitors through variable panoramas over the water from and towards Fryslan. The topside of the dam marks the entrance with a narrow sloping tube. The same glass screens and aluminum structure are used in this amplifier as well. The free cantilever is carried with a V column.

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TRIPLE LANDSCAPE © 2008

Building for Bouwkunde - open international competition for a new faculty building, department of Architecture, TU Delft

client: TU Delft

design: Monolab

team: Jan Willem van Kuilenburg with , B. Drogge, G. Michaud-Nérard, M. van Oers

TRIPLE LANDSCAPE

Our design has been triggered by four agenda's: sustainability, education, urbanism and architecture.

Architecture was not our first point of departure. As a result we designed a Building for Bouwkunde which we consider more an environment than a building. In order to go beyond the limitations of architecture it behaves intensely and it communicates through three landscapes: the first on ground level connects with the context, the second is elevated upside down and the third makes an outdoor archipelago on the roof surface...

clusters

The morphologies of the 'three landscapes' are made through twelve program clusters, shaped like hills or clouds: seven on the main floor, four elevated and in the center the design studios: connecting all. Landscape 1 at ground level is free-flow and has the seven more public clusters: administration, supermarket, cafe, test labs, library, main lecture hall and bookshop. The topsides of these hills are used as multifunctional floors. Landscape 2 has four elevated 'hanging' hills or clouds that hold the Faculties of Architecture, Urbanism, Building Technology and Housing&Real Estate. The lecture halls are spread over all four faculties. Landscape 3 makes an outdoor archipelago with 5 decks on the top of the design studios and the four departments: a mini camping (for first year students with no proper accommodation), lounge terrace, flower field, sports and meadow with cows or sheep.

epicentre

The epicentre of the complete scheme, shaped as a maelstrom, is made of the design studios (studio spaces, modelling, computing, sketching, printing). All and everybody come together here. It has, like all other faculties, an atrium that supplies daylight and which is the major connector for the whole building. It brings all people from the entries and free flow ground floor to the higher floor levels. Its floor plans can have different lay outs between open floor plans with studio spaces for 12 students to cell-like lay-outs, as long as the partitions are made of glass.

heart beat

Contact between all clusters is maximised through the use of glass in all faculties and service programs. The clusters are recognised through a finishing of clear glass that colours through LED systems which are located in the floor edges. In this way the building is like an organism, made of twelve slowly 'pulsating and glowing colourful islands with a heart beat'. The furniture has 'landscape characteristics', like for example in the library: its lazy hill is surrounded by 'a field of bookshelves and desks'.

education - parallelism - intensity

We strive for a building that allows many types of education and maximum contact between its people. It is flat and extended to minimise the number of floors. Interaction is triggered through 1. the transparency and visibility of faculties and design studios and through 2. the open floor fields with flexible glass partitions combined with 3. a free-flow circulation. This free flow circulation operates very well if it creates circuits and avoids dead ends. All clusters make contact between parallel worlds and raise intensity between the individual and collectives, between students and tutors, between design and model making, between sketching and software, between education and market, between faculties and visitors.....

sustainability

The building produces more energy than it consumes because of its flatness and its six climate control systems: 1. a transparent roof surface of PhotoVoltaic glass that generates electricity and blocks the incoming heat, 2. a steel column-beam structure transporting warm and cool air, 3. a concrete ground floor slab, climatized through warm and cool water, 4. a climate facade, capturing heated air and the option to enhance oxygen levels through plant life in the facade zone, 5. a heat exchange unit with heat pump (parking level), 6. a deep underground energy storage system for warm water in winter and cool water in summer. Most building elements are made from recyclable materials (glass, steel and concrete). Rain water from the roof surface can run down the facades and collected at its lower profile although it needs severe filtering because of the bad air quality in the Randstad. The design provides a 'closed ground assessment': the outdoor parking at -1 level is excavated and its soil is shaped into lazy hills in the surrounding landscape. This landscaping fits the Mecanoo masterplan for the Mekelweg zone.

urbanism

The building is located on the former Bouwkunde site. There is no reason to locate it more central because the department is so completely different from the other TU departments. Its main entry is now towards the Mekelweg tram stop. The entry of the former Bouwkunde now makes the side entry in this design, linked by the diagonal path of the Mecanoo masterplan. The parking for vehicles and bicycles is open air and below the building to serve as foundation, to create shading and to save plot size. The excavation of the parking has natural edges that allows a variety of daylight.

architecture

The structural carriers of the building are as neutral as possible. All facades are made of transparent glass. The envelopes of the clusters are mainly of glass (coloured by LED's) and some of concrete as slopes to walk on. Both concrete and glass surfaces have a finish of a corded sand pattern, like on beaches. This pattern makes the slopes and planes of the landscapes readable. All this results in a neutral but exciting architecture of light, shadow and colour...

ROTTERDAM CITY TOWER © 2009

Monolab initiative.

status: call for investors & project developers for participation

design: Monolab

team: J.W. van Kuilenburg with A. Chlebinska, E. Komarzynska, P.R. Rzepecki, G. Michaud-Nérard, B. Drogge, M. van Oers, G. Porcu

ROTTERDAM CITY TOWER

...Rotterdam is considered the architecture and high-rise city of the Netherlands.

MONOLAB architects is not convinced and delivers a recommendation to address this in reality. These Rotterdam-based architects project a distinct tower, the ROTTERDAM CITY TOWER, on a unusual location: right in the Maas Harbour...

Jan Willem van Kuilenburg, principal of Monolab Architects: *'Rotterdam is too hesitant, too defensive and too much like an underdog. After the Erasmus bridge we are in need of a real skyscraper of European scale of which Rotterdam can be proud. All currently realised towers in Rotterdam are of mediocre quality and very primitive. As we should save in prosperous periods, it makes the current economic crisis the right time to invest. This new 450-m tall skyscraper is ambitious and at the same time pragmatic: 1. For Rotterdam it re-opens the window to ambitious architecture. Rotterdam always was an urban experimental field, since it's center was bombed out during the second World War, but since the eighties Rotterdam lost its courage. 2. It stands in the water. Conventional towers are on top of massive parking lots. We shifted our tower into the harbour and realised a second project on the vacant site on top of this parking lot for 1000 vehicles. This second project has scenographic qualities with its huge urban window and plaza towards the Maas harbour and the daily sunsets. It mediates between the big scale of the tower and the surrounding city. The tower is connected with a steel pier as pedestrian boulevard to the parking and to the quay plus metro station. 3. The skin of the tower is finished in Photovoltaic glass, it delivers all necessary energy for lighting. 4. Traditional towers need internal transport cores for elevators and emergency stairs. These cores destroy the tower floor space and every single elevators occupies a vertical core. In this project we placed the core outside, as a grid, holding the elevators. Placing the vertical transport system outside, its appearance displays a building 'under construction, something very common to the Rotterdam people. You could say we designed a true Rotterdam high-rise.... at last'.*

The high-rise zone, planned by the DS+V urban planning office, is extended southwards by MONOLAB as a facilitating spine for the complete city. It stretches from the Central Station District via the Kop van Zuid to the Zuidplein public transport hub and Ahoy multifunctional venue. In this zone, the City Tower is the first of a series of towers, slowly walking Southward...

The project is consists of four co-operating parts.

1. the tower (sculptural, pure, free and heroic)

The tower stands in the water of the Maas harbour to minimise wind and shadow effects and to provide another project on top of the parking lot. The tower functions through the intense co-operation with the grid. It is a sculpture, a liberated tower, communicating through emphatic design. From the surrounding context it looks different from all sides. The tower has a full potential of 83.400 m² floor space. It is programmed with apartments, offices and special entertainment/commercial programs like three observation decks and eleven locations for facilities like sport clubs, cafe's, restaurants, bars, office spaces, recreation space and extreme sports facilities. The special programs are finished in very transparent glass, the apartments and office floors are finished in Photovoll glass, which is almost not transparent, seen from the outside.

2. the grid (a vertical highway, holding a cloud of gondolas)

The grid is a vertical highway, a dedicated logistical matrix. It services the tower as a carrier through continuous transport of gondolas that travel individually along the structural supports. The grid goes far beyond traditional elevator systems because of velocity, efficiency and capacity of passengers and addresses. It defines an exponential urban user-density by holding a maximum of 200 gondolas (max. 12 passengers each), which makes a theoretical 2400 passengers travelling at the same moment. All gondolas move individually through their own energy cells and electric engines. All gondolas together have continuous intercommunication. In this way they avoid congestion and collision by strategically moving up, down and diagonally for passing, all supported by the grid. The grid is structurally stabilised with a steel forest of spacers connected to the tower. Sky lobbies make connections, suspended between grid and tower, serving parts of the tower via short internal elevators and escalators.

3. the boulevard (a pedestrian bridge, crossing the water and giving access to the complete tower project)

The urban pedestrian boulevard is a pier, an interface connecting to the nearby Maashaven metro station. It crosses the parking and the harbour and gives access to the grid and tower. It is a steel grid structure covered with profiled glass planks, like a 'shadow' of the grid.

4. the parking lot (along the quay of the harbour)

The concrete parking lot has a capacity for 1000 vehicles. The roof makes a location for the second –scenographic- project with its huge urban window and plaza towards the Maas harbour.

circulation

The pedestrian boulevard brings people via escalators into the tower through the check-in pavilion with security facilities. The grid is the transport medium for a cloud of gondolas. Through the entry pavilion visitors and personnel travel via gondolas to co-ordinates, dedicated addresses on the grid. The gondolas bring people to sky lobbies that make connections between the grid and the tower. Dense clusters of gondolas will appear if programs in the tower are more demanding at certain moments.

lighting design

The project has various options for lighting:

1. the tower is lighted in full height from the grid and displays its sculptural qualities,
2. the tower is in the dark, while its LED covered skin displays a three-dimensional galaxy,
3. the grid displays the intense activity of the gondolas through a perpetual changing pattern of moving light particles,
4. the pedestrian boulevard is up lighted as a floating strip over the water.

STRUCTURE

The **tower** has no traditional core and has a steel structural envelope which is made of triangular elements. Horizontal structures handle forces on the facade every 12-m. and support the structural envelope sideways. These structures are the floors with 'spider structures': beams radiating from center rings. The rings are connected vertically, providing tubes that hold the emergency stairs. The facade is made of approximately 7.500 prefabricated unique triangular panels of Photovoltaic glass that deliver the tower's electric energy needs. The tower foundations reach very deep to take vertical tension forces and lateral wind forces. The tower has 5 technical floors to handle fire fighting, evacuation, and climatic services.

The **grid** consists of vertical steel profiles with horizontal members every 16-m. Diagonals in the grid serve as passing lanes for gondolas and for lateral stability. The grid is stabilised towards the tower through a forest of steel spacers. To handle possible deflections, hydraulic devices below each vertical member are tuning the verticality of the grid. Sky lobbies connect the grid and the tower, suspended in-between.

The **boulevard** is spanning the complete site like a bridge. It has a structural layout, supported every 15 m., which fits the parking lay-out. The pedestrian boulevard measures 380 by 40 m. and has a maximum capacity of 7.000 pedestrians. Its steel members are 50x50-cm. Glass planks with a profiled anti slipping topside make a semi-transparent walking surface.

The **parking lot** has one layer with a standard grid of 15.00 x 15.00 m. concrete columns.

All **gondolas** move individually by their own energy cells and two electric engines, one in the top and one in the bottom. Each engine drives a heads that locks into the steel grid, driving the gondola along the grid vertically and diagonally. The heads can rotate to change the direction of the gondola. The cloud of gondolas inter-communicates to avoid congestion and cueing. Through variations in speed and change of directions vertically and diagonally, each gondola finds its own critical path to a requested address. In the side window of each gondola an interactive touch screen is embedded in the glass to command the address. Gondolas have two sets of doors: in the front passengers step in from the entry pavilion, and the back gives access to the sky lobbies and the tower. The gondolas are glazed to supply panoramic views while travelling. Maintenance of gondolas takes place in dedicated parking locations on the grid.

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INTER CULTURAL CITYBLOCK © 2009

Monolab initiative

status: call for investors & project developers for participation

design: Monolab

team: Jan Willem van Kuilenburg with B. Drogge, T. Iwashita, G. Michaud-Nérard, M. van Oers, G. Pastore, J. Pena, G. Porcu, U. Rathgeber

CONTACT

intercultural city block for the transformation of pre and post war inner city neighborhoods

bridges

Monolab has taken initiative to bring architecture into action, with culture and religion as the basic catalysts, in order to optimise the integration and social sustainability of cities with diverse communities.

contact and communication

Evasive behavior along with religion as an obstruction are destructive. Instead our approach is triggered by culture and religion as powerful catalysts. It is important to see in how far our design for this inter cultural and inter religious city block can be usable as a new urban typology for improved contact, enhanced communication and more successful exchange between different communities.

city block

The city block is designed to transform the pre and post war inner city neighborhoods. Its main function is to improve contact and understanding and at the same time to be as neutral as possible to accommodate residents from different cultural origins. It is made of four layers on top of a subterranean parking and is cut by two narrow streets that meet at the central square. At ground level local commercial services are located, higher levels are meant for residential programs, like apartments and lofts. The architecture of all residential programs improves contact and communication through fully glazed facades and extended terraces. These outdoor spaces anticipate to the changing climate in The Netherlands, towards a more Mediterranean character. The block has four cultural-religious houses oriented towards the central square. The functionality goes far beyond religion, with meetings, lectures, presentations, workshops, youth events, expo's, parties, markets, etc. Each religious house has its specific orientation which makes rest spaces for housing or office spaces. The residential program is accessible through four open courtyards with elevators and stairs. In this way a rich network, a public domain, can start evolving.

cultural-religious homes

Inside the block a church, a mosque, a mandir and a synagogue are embedded. These programs are excavations from the mass of the block and only need a roof. In this way they can be realised relatively cheap. Big doors facilitate urban contact between interior and public domain.

dimensions

Dimension of the city block are approximately 110 x 110 m with four layers of 8.220 m² each. The total floor space is 32.880 m² with 180 apartments of 80-100 m², 2.800 m² commercial spaces and 8.400 m² office spaces.

Nolli

The revolutionary map of medieval Rome by Nolli, in which interiors of semi public buildings are part of urban public space, has directed our concept.

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GREEN RIVER © 2010

Monolab initiative

status: call for investors & project developers for participation

design: Monolab

team: Jan Willem van Kuilenburg with M. Baillie, I. Toleo Fernandez, C. Simpson

GREEN RIVER

Rotterdam stays behind on two issues compared to other cities. First, Rotterdam has little functional green public space. Second, Rotterdam ignores a positive use for citizens and tourists of its 94-KM waterfront along the Maas River. Rotterdam based design practice MONOLAB architects has taken initiative to take up these issues through the 'GREEN RIVER' project.

GREEN RIVER consists of two elements.

1. A Monolab upgrade of the Westersingel, the green axis running parallel with the Coolingsingel main boulevard. It connects all fragmented tiny green plots, it makes the city centre more healthy and human and it improves its absorption of rainwater. Green River also connects two dedicated public buildings on both sides. In the North the renewed CENTRAL STATION and in the South the 'ROTTERDAM GREEN BUILDING', a cultural hotspot designed by Monolab.
2. In the urban window of this building a site originates where the city is connected to the river at last. The Euromast Park is linked a new, permanent BEACH to the Maas River.

Jan Willem van Kuilenburg, principal of Monolab Architects:

.....'Through GREEN RIVER we have united city and river again. Rotterdam has a dramatic lack of useable green space within its downtown district. The few city parks, like the Zuiderpark and Kralingse Bos, are too remote. The city center only has the hidden Euromast Park and the Westersingel green axis. In our proposal we made a quantum leap by introducing a green shared space for pedestrians, cyclists and vehicles. The new green and deliberately vulnerable surface has a larger buffer capacity for rain water and certain existing buildings along will have green facades and roofs. We also planned the multifunctional and embedded 'GREEN ROTTERDAM BUILDING' on the Westerkade quay, connecting Green River with the Maas River through a permanent BEACH. This initiative contributes to the transformation of Rotterdam, the city that lost its westward moving world harbour, the city that never really was connected with its Maas River except for pure logistic reasons but owns 94-km waterfront within its Ring. Many cities already realised their waterfronts, it's about time for Rotterdam to take action. Green River is our proposal in that direction for its citizens as well as tourists. The tourist industry is the largest in the world and will double in the next twenty years. I expect that Rotterdam will regret if it would miss this huge opportunity. The city cannot simply attract tourism through 'hit and run' events all the time. The city also has a responsibility to realise a structural quality within its public space. We make this first move by linking the inner city to the river through this project that serves both its citizens and the market'.....

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FLOW TERMINAL © 2010

international Air Baltic Terminal competition

client: Air Baltic - Ove Arup

design: Monolab

team: Jan Willem van Kuilenburg with I. Naya, L. Parisi, G. Pastore, S. Vartolo.

FLOW TERMINAL

Together with comfortable travel, the Air Baltic Terminal also can be a place to enjoy cultural events. The terminal functions as a cultural hotspot, serving all Riga citizens. The terminal can be dedicated to flow because the high percentage of transfers allows handling of arrivals and departures mainly on one floor level. The architecture of the terminal can be a contemporary support to Riga's rich architectural history of Art Nouveau, Gothic spaces and wooden constructions.

Two important issues have triggered our approach

1. Air Baltic is single user and has a business policy that supports cultural life.
2. Riga Airport and Riga City are very close together and transfer in-between is easy and swift.

Our design is made of three parts

1. a cultural platform at 0 level (ground floor) that brings Riga and travelers together,
2. a dedicated launch pad at +1 level that offers high comfort and simple, intuitive navigation to travelers,
3. an efficient baggage handling system at -1 level.

1. cultural platform

The platform is well connected with the road system and parking facility. It is designed as a transparent glass box with welcoming lounge and cultural stage for Riga citizens and travelers, programmed with a variety of regional cultural events, like pop and classical concerts, theatre plays, performances, exhibitions and fashion shows. One of the local qualities of Riga is its park-like character; the city is full of trees. Therefore the platform is designed like a forest, with inclined chrome columns that behave like trees. The floor layout of the platform displays passenger paths between entries and check-in area. On both sides of these paths more relaxed areas are made with fiberglass pebble-shaped commercial-cultural pavilions and a wood floor finish.

2. launch pad

The launch pad is fully dedicated to easy and swift passenger flow. The flow patterns of passengers inside make an intuitive travelers environment and are defining its organic shape. The launch pad is a carrier of several pebble-shaped commercial pavilions at +1 level and at a suspended mezzanine at +2 level. The launch pad also has a large airside window along the restaurant zone. The main body of the launch pad is situated in the glass box and stands with two big 'feet' on the platform. These feet define the check-in, security and baggage reclaim zones and also make an arch for the cultural stage. The arch welcomes all passengers. The launch pad has two 'heads' with departure lounges inside. One head with the VIP lounge has a huge panoramic landside window onto the Riga skyline. Travelers have terraces, situated on the top of the two heads. Two 'arms' make the piers.

3. baggage handling

The baggage handling area is situated at -1 level and is connected with two vehicle transport ramps at the airside to the apron area. Sloped belts move the baggage to the two reclaim belt zones at ground level.

functionality

The large numbers of transfer passengers allow to organise almost all arrival and departure on one single level. Thus a simple vertical layout is made of baggage handling system at -1, main entry and exit hall with cultural stage at ground level and arrival & departure at +1 level. Some +2 level mezzanines hold more service program.

structure

Logic, ease and speed of construction are of utmost importance. All building parts are prefabricated and assembled on site. From bottom to top: The *baggage handling* has a simple concrete column beam structure with the same generic 7.2-m grid as the ground floor and roof structure. The *platform* has a glass box at level 0 with a steel column beam structure that carries the horizontal roof. The forest of steel columns in the box have certain degrees of inclination which makes them look natural like trees. Their positions at top and foot are not at structural cross points, but shifted along the 7.20-m grid lines. The climate facade around has a double glass envelope with an internal space of 1.5-m for air treatment. Windows are cleaned from the inside. The roof sheet has some large glass openings to allow more daylight into the entry and exit zone. The structure of the *launch pad* has a horizontal split at the +1 floor level. Below it is a stable concrete structure, organically shaped and cast in situ. On top are steel frame portals every 7.20-m, connected with a steel beam structure for lateral stability. The shape is made of concrete panels. The size of the panels can be tuned to more regular sizes for road transport. The concrete shape is made watertight on the exterior and has a finish of metal skin. The interior of the shape has insulation and interior paneling.

climate systems, services, sustainability

All building parts have their own dedicated energy- and climate systems. The platform has a large volume with a combination of air treatment from the roof down and floor heating/cooling at 0 level. The roof can have 6.500 m² of solar panels to cover all necessary electric power of the terminal. The complete glass box has a double climate facade that captures warm air and leads this into three heat exchange units on the roof. Warm and cold water are led from there

into subterranean storage reservoirs. The three air treatment units on the roof have three 'hands' below the ceiling that inject air into the glass box. The launch pad interior floors have heating/cooling at +1 and +2 levels together with additional air injection from the floor's edges. The sections show that the interior shape of the launch pad makes the air flow complete. The piers have floor heating/cooling together with additional air injection through the double climate facades on both sides. All services, like ducts, pipes and cable systems run below the removable floor system of the +1 and +2 levels. Maintenance takes place from the top side of the floors.

evacuation

The platform evacuates travelers around the facades at ground level, the launch pad evacuates along all sides of the glass box at +1 level and from there at the west facade down to the ground level. The piers evacuate directly down to the apron.

signposting

Together with the passenger flow environment, a clear signposting system is of vital importance. We suggest embedded signing as much as possible onto the skin of the launch pad. We apply flexible screens that are attached onto the curved surface of the pad. In the glass box of the platform we use the exterior skin of the launch pad.

lighting systems

Lighting as well is integrated as much as possible. The floors are made fit for integration of wall washers, up-beaming spots and Led's.

car parking and public transport facilities

The outdoor parking lot has pedestrian links into the terminal. The center area is reserved for rental car spaces. The North side of the terminal has space to locate the bus-taxi stands. We kept the South side available and fit for the possible connection to the current terminal.

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RE-ACTIVE TISSUE © 2011

Downtown Fargo Urban Infill Competition

client: Kilbourne Group

design: Monolab

team: Jan Willem van Kuilenburg with H. Varela Morales, I. Planelles Naya, G. Pastore

RE-ACTIVE TISSUE

...a flexible urban tissue, a small scale pedestrian paradise with a cultural core among a fine-tuned mix of retail, office space and residential program...

integrated design

Downtown Fargo can be re-activated if it escapes from its generic grid and its vehicle-driven urbanism.

In order to generate social space with natural flow, connectivity and surprise, our design is very well embedded and more than an infill. The efficiency and generic character of Fargo's current urban grid is very helpful to Re-Active Tissue.

stacked program

Fargo will densify if it fulfills the need of an improved public environment. Stacking different functions will enrich urban programming and improve user and visitor densities. From bottom to top we stacked parking, retail, office and residential programs in a mosaic layout. Retail space is situated at ground floor (city floor). At higher floors retail is to be avoided as it will decrease public life at street level. Office space is placed in between retail and apartments in the upper floors. A roof scape on top of the project makes an environment for privileged penthouses.

tissue

An urban tissue solves many issues. If we are to avoid public indoor space, the harsh Fargo winter climate requires a small scale urban layout with narrow streets that protects pedestrians. For a human and friendly living environment the project is as flat as possible. It makes cross connections to other downtown city blocks. In addition to the given program we planned a square with cultural core at its heart. We keep pedestrians at the city floor and we also take up the current air bridge system. A set of cores serves all floors levels, city floor and parking. So called master cores and sub cores are linked by private pedestrian bridges crossing over pedestrian streets. The project fits into the Renaissance Zone planning. It connects to historic Fargo through classic facades at Broadway and by giving the streets back to the people. It connects to future Fargo through its pedestrian pattern, mixed programming, cultural heart and its comfort.

The project's ambition is to enhance communication between citizens with a focus on the outdoor quality of relaxed public space. Its architecture is largely made of floors and not so much made of dividing walls. Facades and partitions are mainly screen-like, not solid.

parking

The project is based on straightforward underground parking facilities with a gold painted concrete cassette ceiling, colored glass cores and specific lighting qualities along its perimeter wall for a permanent exhibition of historic Fargo images. The 8.00-m span parking grid makes the tissue on top feasible.

sustainability

The project has different skins (glass, louvers, solar panels and evergreen ivy) that enhance the performance of the project. The ivy also covers some streets adding up to the overall comfort. All facades have individual tuning through sliding panels and all glass sliding doors. All floor slabs can have hydronic water systems, the most popular and cost effective radiant heating and cooling system available. An energy cell unit and solar roof panels deliver heated and cooled water. The water is pumped through tubing embedded in the concrete floor slabs.

social space

True social space goes beyond an efficient grid. At best it is a coherent environment, in which citizens feel comfortable, involved and committed. No more hit and run consumer behavior like in the huge malls, but a healthy, outdoor, human-scaled environment that also offers culture along the commercial and business programs. The layout of the project indeed is derived from old historic European city cores that perform very successfully after their transformation into pedestrian environments.

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ARCHIPELAGO © 2011

international architecture competition

client: Spiretec

design: Monolab

status: honorable mention

team: Jan Willem van Kuilenburg with A. Abaigar Villota, H. Varela Morales, I. Planelles Naya

ARCHIPELAGO

...filter bed...

A sustainable infill in a 62.750 square meter mixed use area, part of an IT office complex and spread across approximately 85,000 square meters of land; with a built potential of approx 175.000 square meters. The project is located in Greater Noida; part of the Delhi – National Capital Region (NCR) India.

Archipelago is a spread of islands with bungalow-type pavilions over a constructed wetland that purifies the nearby river water. A suspended chatri screen of climbing plants protects against sun and strong winds. Shaped openings generate airflow with natural cooling over the water. Combined with vegetation shadow casting it enhances healthy conditions of the project for refreshing breaks. Pedestrian paths on different levels link all programs in this open-to-sky environment. The landmark overlooks the riverside as a landscape and the suspended screen as a garden.

filter bed

The wetland is a natural filter bed, a shallow basin of approximately 15 cm-depth, covering the complete site. Water is taken from the Yamuna River through pipes, filtered and purified through the filter bed with helophytes water plants and given back to the river.

screen

The screen is made of a steel net with climbing plants growing from the filter bed. It is warped and generates 'chimneys' to trigger airflow over the cooling water surface like the bio climatic section of the traditional Indian bungalow. It is suspended with slanted columns and cables between the IT buildings.

pavilions

The pavilions, derived from the typical bungalow lay-out with compact core and open space around, have screen like facades.

landmark

The landmark consists of a stack of 'islands' with amorphous lay-outs of scattered pebble-shaped rooms and apartments, to avoid standard corridors. All floors of cast concrete in situ have different shapes, supported by mushroom-type columns that come from the parking.

program

Programmatic implant is made in three ways:

1. below the IT buildings the incubator, office and banking programs adapt to the footprints of these buildings,
2. the islands with pavilions hold most of the public programs like the market, food courts and retail.
3. the landmark takes the hotel functions, apartments, banquet space, wellness center, club, library and expo space.

network

A network of paths makes short cuts between IT buildings, pavilions and landmark. The paths over the water are made of wood and flagstones. Suspended steel paths make connections between IT buildings and the taller pavilions.

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HIGHLAND © 2011

international architecture competition

client: eVolo

design: Monolab

team: Jan Willem van Kuilenburg with A. Abaigar Villota, C. Crespo Bonilla, H. Varela Morales

HIGHLAND

on tallnes - overtaken by density through public space

proposition

Tall buildings are intense but also non efficient and create mostly rest space. The time has come to research and design more productive and compact types of density. These new types emerge as soon as we concentrate on public space instead of dense matter itself.

challenge

How to bring life and social performance in urban substance of unprecedented density?

hypothesis

An urban mass of 1312 x 1312 x 328 ft (400 x 400 x 100 m).

Its footprint is 1,72 million ft² (160.000 m²).

Its volume is 565 million ft³ (16 million m³).

parameters

- public space instead of rest space,
- tissue instead of building,
- coherent urbanism instead of stand-alone architecture,
- generic instead of high-tech.

design strategy

1. unprecedented urban mass
2. excavations for public space
3. excavations for admittance of daylight and air
4. use of generic building techniques
5. logistics for people, vehicles, energy, water, waste, security and structural support

density

Through these five design steps Highland delivers a high density project full of potential that acts as an urban tissue. Its densities are: a gross floor space of 26,9 million ft² (2,5 million m²), organizing the complete amalgam of urban programming (housing, working, recreation, production, retail, office space). A volume with an average of 21,2 million ft³/hectare (600.000 m³/hectare) of intense urban substance.

public space network

Highland performs best if its public spaces are integrated loop wise, as one interconnected system. After tallness is overtaken by density, Highland is ready for architecture.

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EMBRACE © 2011

international architecture competition

client: Gösta Serlachius Fine Arts Foundation, Finland

design: Monolab

team: Jan Willem van Kuilenburg with H. Varela Morales, I. Planelles Naya, A. Abaigar Villota, C. Crespo Bonilla, J. Raczek

EMBRACE

*...a submerged museum extension as a flexible field for art inside a service loop...***integration**

The challenge of this project is the integration and synergy of both manor and its extension.

The obvious way to plan would be above ground level, but instead we propose to integrate below ground level in order to keep the landscape free. The excavation makes us design voids; pure space.

loop

We considered the Manor and its submerged extension as a master volume with wings. We made the wings into a service loop. The Manor and assembly hall make the heart of the project. The loop embraces foyer, exhibition spaces and all works of art. The loop offers flexibility; it makes all spaces independently accessible. Visitors can have a free choice in a 'free flow' layout. On the other hand it is also possible to direct visitor flows and also to close certain exhibitions under construction.

lay-out

The cut out is carefully planned, in such way that the Manor is well exposed, standing proudly in the excavation. A ramp makes the entry and exit of the complete project at -1 level. All expo spaces and restaurant are aligned parallel inside the loop. The travelling exhibition 1 is sunk deeper and has two stairs on both ends: it could also function as an arena, auditorium or performance space. All exhibition spaces have flexible wall partitions on rails that can be shifted away. The inside of the loop (all exhibition spaces) can be transferred into one continuous space for events and major exhibitions.

compactness

This layout makes a compact project with surprising functional and spatial qualities. Concerning the extension the net floor surface is 3.992 m². Its gross floor surface is 5.410 m² including 1.198 m² for circulation space and structure. The result is a brut-net relation of 139%.

deck

A deck with filigree structure spans over the excavation and makes a new space in the park. It is built from prefab concrete elements with triangular openings. The triangular pattern can deliver various patterns. We propose a natural pattern of tree crowns, flowers and snow crystals. The triangles can be closed or perforated with semi-transparent or transparent glass. Visitors and museum staff are in-between the deck with the tree-flower-crystal pattern and the shadows on the floors.

climate

Stable climate and light conditions are highly important for works of art. Variations in temperature and atmospheric humidity are not allowed and have to be avoided and controlled.

The main parameter for control is accumulation. The complete extension, including the deck, is sunk in the earth and made of concrete. The total accumulative mass will absorb most variations in the interior climate. Hydronic floor heating and cooling in the floor mass will further stabilize the climate.

Climate fine tuning and refreshing comes down to air treatment from a HVAC unit in the center of the building. A ring shaped duct under the loop controls the air treatment in the whole project. Air throw goes through integrated floor ducts with grills and air extraction goes from the top of the perimeter loop wall.

lighting

Triangular screens tune and block natural daylight and shadow casting through the glazed triangles. The conservation room has an additional mechanical lamella system below the ceiling. Artificial lighting is suspended from integrated rails in the beams. On the sides of all beams integrated led up-lighting creates basic diffuse lighting conditions.

logistics

Transport of art works and restaurant items takes place at the west side of the project. A weather tight loading dock allows climatized trucks to load and unload within the controlled climate of the building interior.

NETWORK © 2011

international competition - Montreal International Gateway Corridor

client: YUL-MTL Moving Landscapes

design: Monolab

team: Jan Willem van Kuilenburg with M. Del Carmen Munoz Cauqui , D. de Cos Roman, K. Pilarska, M. Los, A. Haqimi Othman, F. Parraga Gamero, M. Antos.

NETWORK

...a new urban landscape, defined through the synergy of bottom up developments and top down heavy infrastructural systems...

hypothesis

Through traditional planning urban corridors (like YUL MTL) are developed top-down. It generally leads to representation and branding on a metropolitan scale but also to barriers without functioning connections between surrounding communities and citizens. The Montreal International Gateway Corridor is not very different from others, as heavy infrastructures are barriers; create 'islands' that function in isolation. Our hypothesis is that bottom-up developments can trigger key developments in corridors on a large scale.

- a. NETWORK introduces a local connective system that connects all types of infrastructures and that delivers stations and nodes.
- b. NETWORK also is the kick starter into the development of seven authentic, well connected islands in the corridor, each of which has its specific programming, lay-out, buildings and landscaping.

first step: the search and definition of human scale

How to grasp and introduce a human and meaningful urban scale in the corridor? We projected an archetypical boulevard -in this case the Paris Champs Elysees- on the extended domain of the corridor; despite its length of 8.5 kilometers it is walkable and it has a series of urban buildings within visibility range. The part between Louvre and La Defense fits the corridor two times on both sides of Saint Pierre. The analogy to Paris gives us three locations for new landmarks: two on the outer ends (Dorval and Ville Marie Tunnel) and one at Saint Pierre as its center. Each of the two legs can take three further monumental landmark buildings, all within visibility range.

second step: bottom up strategy through satellites, stations and bridges

On a local scale we connected key roads of boroughs on both sides over the corridor. Along these links (satellites) upgrading will start and trigger new local buildings embedded in street profiles and at squares in the boroughs. At points where the satellites cross the infrastructural bundle, a series of stations and bridges is designed. Stations are planned at points where satellites and heavy infra (road and rail) coincide. In a later phase the stations define the breeding grounds for landmark buildings, connected to the heavy infra. The bridges together with the landmark buildings make a scenographic composition like an urban boulevard.

third step: completion of the network

On the scale of the corridor we complete the network by linking the satellites. The network with loops connects the local boroughs and communities with the heavy infrastructures and the seven islands. It is made of an elevated linear deck at +6 m. serviced with ramps, stairs, escalators and elevators. It has integrated lighting and facilities like service stations for bicycle and electric scooter rental and vehicles can pass below.

heritage

We consider the industrial heritage of warehouses along the Canal as a very valuable project. These buildings deserve to be highlighted, upgraded and extended. East Island has a lay-out of plots that can take future expansions of the old warehouses. We extended the warehousing further Westward through a series of new warehouses surrounded by a landscape the size of Central Park NY.

landscape = synergy

The outcome is that NETWORK does not deliver a specific landscape design. In NETWORK, the new urban landscape is defined by the synergy between bottom up developments and heavy infrastructural systems. Because of its extensive lay-out, coherence is not only a visual issue but for all one in synergy: locally triggered, connective, functional and programmatic.

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HALO © 2011

international competition - Istanbul Disaster Prevention and Learning Center

client: ThyssenKrupp

design: Monolab

team: Jan Willem van Kuilenburg with D. de Cos Roman, C. Crespo Bonilla, A. Haqimi Bin Othman, U. Martyniak, M. Del Carmen Munoz Cauqui, K. Pilarska, J. Raczek, A. Abaigar Villota

HALO

...a suspended loop displaying disaster scenes around a public garden...

summary

Halo is an open building, a strategic assemblage of parts, that connects (city and water), activates (green corridor), contains (the garden as a small urban paradise) and exposes (simultaneous display of all possible disasters). As the project is in a potential green corridor we planned it as a hortus conclusus –a walled garden- that links three zones; the urban, the green and the water. We made the garden wall like a programmed loop, elevated on top of three active islands and a forest of thin columns. The garden is an open, accessible and activated part of the green corridor for all citizens and visitors of the building. From the sky the project reads as a clear urban logo for Istanbul.

green corridor

Before starting the building design we have improved the context and environment of the project, which is very well connected to all kinds of infrastructures. Its generic character as an airport and business environment made us design something completely different. Istanbul has an average green space of only 6 m²/person. It is far behind most European cities that have an average of 20 m²/p. Amsterdam has 45 m², Rome 45 m², Stockholm 87 m², even New York has 29 m² and London 27 m²/p. Therefore we propose a repair of the broken corridor along the Ayamama creek that comes from Basaksehir and flows down into the sea. It has great potential if we plan green public space along the creek. This makes an urban green corridor that also enhances the competition site.

loop

The loop is designed as a powerful urban object. This is the reason for its minimal architecture and abstract white finish. It holds the edutainment programs in one flow of transparent interior pavilions. All edutainment programs with simulation rooms are simultaneously displayed in the loop. The exhibition is not in a room but goes along the circulation space and offers the public all necessary background on a free flow trajectory along the pavilions. Information is exchanged through interactive led touch screens embedded in the glass envelopes of the pavilions. The subtly warped top of the loop holds the cafe with an impressive panorama over the complete environment with airport and coastal waters.

islands

The three islands are activators of the green corridor. The urban island is situated at the street side and is finished in asphalt. It holds the sun-protected parking and the main entry facilities and office spaces. Two islands are situated in the green corridor with skins of grass. One holds the planetarium and the shelter, the other holds the auditorium.

urban garden

The 65-m diameter urban garden is open to the public. It has a micro climate which is shaded in summer and wind protected in winter. It offers a display of all edutainment programs in the loop and different activities like reading, walking, cycling, lounging and urban sports like skating, etc. As the project is very well connected to main infrastructures, the garden has the potential to host big public events like pop concerts. Opposite the entry island a stage is planned with a huge video screen integrated in the inner edge of the loop.

multi-functionality

All programs are functionally integrated within the complete project, but some can also function separately. The parking, auditorium, restaurant and planetarium are all integrated with the loop but have their own dedicated entries as well.

structure and disaster prevention

In order to guarantee earthquake resistance, the project is symmetrical, light weight, resistant to sideways loads and it is low compared to its width. The loop is point symmetrical to minimize sideways shifts and/or rotation instability. In order to reduce the loads it has a lightweight steel structure with a top and bottom part of internal beams that taper from the center to the edges. Both top and bottom have an exterior cladding of thin, prefab, white fiber glass reinforced concrete panels. In order to create an open, monumental interior space and to reduce structural supports, two outer lines of columns hold the top and bottom apart. Radial and lateral trusses take lateral and rotation forces. The facades are made of vertical glass sheets, mounted at the bottom and top. The vertical seams are silicon joints that can take deflections caused by wind pressure. The islands below are carriers and stabilizers of the loop and made of steel truss portals with robustly fitted column-floor connections and inclined sides to withstand lateral forces. Where islands are absent, the loop is supported through a forest of thin commuter columns that can take earthquake shifts through high deformability and flexible head and foot details. In terms of emergency escapes, all three islands facilitate exits in four locations with a maximum 70-m. distance between exits. The shelter is located halfway the loop, together with the exit along the planetarium. In case of fire, the smoke extraction goes exterior through vents in the ceiling.

climate control and sustainability

A total of four HVAC units are located in the three islands with air ducts running vertically through four specific columns. The ceiling of the loop takes care of horizontal air ducts. As the loop is lightweight, it has little accumulation. Therefore air treatment takes care for cooling and heating of the interior climate. All glass facades of the islands and the loop have photovoltaic ventilated glass. The facades do not need further sun shading. From the cavities of the glass facades warm air is extracted into the ceiling towards heat exchange units. These units capture the energy for two warm-cold water underground storage basins for air treatment during respectively winter and summer periods.

FACILITATOR © 2011

International Competition - Outside The Box - Low and High Technologies for the Emergencies 2011

client: Contanima

design: Monolab

team: Jan Willem van Kuilenburg with Francisco Parraga Gamero

FACILITATOR

...a strong, cheap and very durable tent that allows new organic and social camp lay-outs...

mental frame

Many temporary disaster shelter camps have an extended existence as permanent camps for over 10 years.

Our first hypothesis is that facility units in temporary and (semi)permanent camps can be made of advanced tents. Membrane technology has improved extensively, which makes tents competitive with pavilions and other container type of accommodation. Tents are lightweight, portable, quick to install, strong, cheap and very durable. We designed a tent that needs least effort to install and that has the strongest possible shape and structure in terms of anticipated climate, weather conditions and durability. It is based on a pre-stressed membrane. Its shape is derived from a sphere (maximum content with minimum envelope) and formed into a flattened ring torus (strongest in shape). Because of its multi use applications we call it 'facilitator'.

social patterns

Instead of proposing a standalone pavilion, our second hypothesis is that this particular tent shape allows new organic camp lay-outs with much more social interaction. Tents can be linked and grouped in various social patterns to assist families, groups as well as individuals, in many possible options. The camps layouts are in fact derived from the standard orthogonal pattern, but now clusters of social coherence can be made, grouped around facility tents. The new lay-outs are network-like and offer public, semi public and private open spaces.

facilitator

The size of the folded facilitator fits a standard shipping container. The tent is transported plane and is unfolded and made ready by six people within one minute. It has an optimized size for many possible lay-outs of people's spaces and facilities. It is made of a radial set of twelve integrated pre-shaped spring steel strips, as meridians, that keep the single membrane under constant tension in radial directions. The anchorage system consists of four auger fixings into the underground soil. The tent is extremely strong and stable and does not need ropes.

specs

The folded facilitator has a height of about 72 cm with a hollow space that can hold containers stuffed with necessary equipment, medicine, dried food, etc. The facilitator is made of 12 radial sections that make 1-12 compartments. Compartments can be divided through fabric partitions with zippers.

Different types of membrane (semi transparent, insulated, reflective, ventilated) can be applied to fit specific climatic conditions. For a durability and life span of at least 10 years, the bottom and top have watertight membranes of 700 gr/m², armored with highly resistant fibers.

The weight of the tent is approximately 40 + 170 (steel + membrane) = 210 kg and it needs six people to carry and unfold. Color of the tents for the displaced is off-white in order to reflect harsh sunlight. The service tents have recognizable colors. The open center void of the torus makes the facilitator extremely strong and is used as a provider of privacy and as a technical space. The technical space assembles drinking water into a container or is used for communication through antenna devices. In the top of the membrane solar cells with Led lights are embedded.

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COMMUNITY BUILDING © 2011

Rooftops International Contesta Competition

client: Contesta

design: Monolab

team: Jan Willem van Kuilenburg with K. Sobus, F. Parraga Gamero

COMMUNITY BUILDING

...an independent community under the sky that mirrors the busy life at the city floor...

Life on the rooftops is all about freedom, independence and self support. Our concept is the building of an independent community that mirrors the busy life at the city floor. Community Building is prefabricated, light weight, adaptable, cheap and full of freedom and joy. Its program is living and sharing. It consists of a series of private living units with half climate zones, connected with bridges. It is suspended over the flat roofs of a city block. The bridges connect the units and form a loop over the different roofs. Bridges together with half climate zones make a social space. Community Building can grow and extend itself with foot bridges crossing narrow streets.

Community Building is made of five parts

1. each living unit has a deck which is situated on top of trusses spanning over the roof underneath.
2. a living unit has one minimal 30-m² cube that contains sanitary, kitchen, storage, sleeping and living.
3. all units have different types of permanent tent structures (max. 110 m²) that make half climate zones around the cubes.
4. a steel stairway on the outside of the city block connects to all units through foot bridges.
5. one shared unit, closest to the stairway, is for mixed use.

The social life mainly depends on the many typologies that can be made with variations of decks, cubes and half climate zones. The private climate zones are made of steel profiles and flexible skins made of different thin membranes, curtains and other semi-transparent materials. We programmed the half climate zones with a micro basketball floor, a vegetable garden, a chicken cage, a big barbeque, etc. The Shared Unit functions like a guest room for family or friends, mini class room, children playground, party room, office space, diner room, library, etc). It has a shared vegetable garden which is fertilized with the dry compost coming from all toilets (10 kg/unit/month). The social life together depends on the wishes and needs of the individual residents.

Decks and units are placed onto the roofs with a mobile crane. Trusses are mounted onto the facade walls; corrugated metal sheets are mounted on these trusses and on top multiplex sheets finish the decks that are suspended over the roofs. The cubes and all further steel profiles for the half climate zones are mounted on top of the trusses. Community Building has water and electricity from the urban net. It has no sewage, because of the use of dry compost toilets. Solar cell panels on one roof generate basic electricity for led lighting. The cubes have a high level of insulation with 120 mm technical foam.

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NEW LIFE © 2012

Pruitt Igoe Now - the unmentioned modern landscape

client: Michael R. Allen and Nora Wendl

design: Monolab

team: Jan Willem van Kuilenburg with M. Antos, F. Parraga Gamero, E. Pero Franco

NEW LIFE

...towards a co-operative winery...

Today the site of the Pruitt-Igoe housing project is an overgrown brown field forest marking modern architecture's most contested moment and St. Louis' urban renewal trauma. As the legacy of Pruitt-Igoe is critically examined again, the site itself beckons. Can this site be liberated from a turbulent and mythologized past through re-imagination and community engagement?

approach

Our approach is looking ahead through linking the history of Pruitt-Igoe to the history of St. Louis.

St Louis

St. Louis is a damaged city. Consecutive city councils have neglected its citizens since the 1950's. Spatial planning strategies have been impregnated with racial engineering, which led to exclusion, poverty, shrinkage and malfunction. The city lost 300.000 citizens, half of its population since WWII. This unprecedented population drain caused a rush, even from its inner city core. Despite recent efforts to change this, St Louis still faces large abandoned territories today: the city is already dying for over five decades. It's time to act. This history however also offers unburdened outsiders the chance to supply a window of opportunities and define possible futures of immeasurable value for those who are in fact willing to look ahead. We took a new direction and defined Pruitt-Igoe as a new heart of the Carr Square Borough.

specific history: wine making

By 1855, 500 acres of vineyard were in production and wine was being shipped to St. Louis and beyond. Missouri's wine production continued to flourish. By the turn of the century, Stone Hill Winery, which the German immigrant Michael Poeschel began building in 1847, was the third largest winery in the world (second largest in the U.S.), producing more than a million gallons of wine a year. In fact, Missouri's Weinstrasse region grew to include more than 100 wineries before coming to an abrupt halt in 1920 with the addition of the 18th amendment to the Constitution –Prohibition- which prohibited the manufacture and sale of alcohol in the United States. This amendment dealt a fatal blow to Missouri's wine industry.

the Pruitt-Igoe plot

The Pruitt-Igoe project was a clear and dramatic symptom of the directive, top down strategy. Pruitt-Igoe was a modern, radical experiment. Was America ready for this kind of social experiment? Definitely not ready, as Pruitt-Igoe required a bed of social coherence amongst its citizens which was already erased by its decision makers.

The future of Pruitt-Igoe lies in the contrapositions of its original parameters:

1977	2012
mono functional.....	multi functional
private.....	public
stone.....	vegetation
zoned.....	open
top down.....	bottom up
post industrial.....	post agricultural (pre natural)
discriminating.....	social
excluding.....	mixing
abandoned.....	attractive
radical.....	realistic
urbanized.....	natural
regulated.....	developing
suburban.....	central
immutable.....	adaptable
contained.....	borderless
incorporated.....	productive
repetitive.....	unique
controlled.....	free
leaving generic rest space.....	making social space

context

The future of Pruitt-Igoe plot is defined by its surrounding context. The context of Pruitt-Igoe is largely defined by many abandoned, empty, urban plots. Our proposal is a positive, productive use of these plots. It should fit St. Louis climate and history. It should be organized by local citizens, give them pride and it should be able to grow and expand. Its production should be green and go beyond small scale urban agriculture. In terms of agriculture it should not repeat surrounding farming of crops. It should have a social heart.

the proposal

Missouri has an impressive past of wine making. We propose a winery, organized as a co-operation of local citizens. Available plots are gradually planted with wine plants. The Pruitt-Igoe site will become a wine farm with a programmed wall, like a 'hortus conclusus', with an open social space at its heart for the Borough. The 'figure and ground' will be transformed from an urban desert with patches of green into a green landscape with spread buildings that will get a higher value.

The Pruitt-Igoe wine farm will grow along its perimeter wall. The wall has openings linking streets into its heart, an active and public park, open to all citizens. The Pruitt-Igoe wine label will deliver high quality bottled wines. The boroughs that surround Pruitt-Igoe will benefit, the air will be clean, the horizons will be green and the citizens will be responsible, productive and full of life.

NETWORKED TISSUE © 2012

International Competition Aalto campus 2015

client: Aalto University

design: Monolab

team: Jan Willem van Kuilenburg with E. Pero Franco, A. López de Rego, D. Steponavicius, I. Subias, S. Zenobi

NETWORKED TISSUE

...towards a new interactive research & learning environment...

True interactivity is triggered between very different entities.

The core idea of this proposal is an open and powerful interactivity of three different stacked worlds. The center level is the **academic world** between a **public world** below and a **natural world** above. The urban tissue made by these three levels is perforated by a pedestrian system of a boulevard, streets and a series of patios. On top is a string of different gardens with small pavilions, gardening and sporting facilities. All three worlds are working closely together. All departments have their own foot print in this lay-out.

INTERACTIVITY

Each world has a major operative. The focused academic activities among students and tutors takes place at +1 level. From this level students and their work can go interdisciplinary and/or public to the public ground floor or go up for reflection & contemplation in the natural and leisure roof environment.

academic level = FOCUS

The private +1 floor level holds all academic core programs of the departments and learning center. It is tuned to focused work of teams and individuals. Departments are linked by air bridges.

public level = SHARING & EXPRESSION

The public 0 ground floor level is made by most of the commercial program and academic art galleries that sink down from the +1 academic level. In the art galleries students can work interdisciplinary and also expose their work to fellow students and the wider public in the public environment. Selling of art works is a promising option.

gardens = REFLECTION & CONTEMPLATION

The +2 roof level offers a relaxed green environment and facilities in small pavilions and green houses for teams and individual students that need to reflect upon their work and process. Each department has its own typical green environment and together these make a series of gardens. An overall running track connects all departments through the icons and their terraces. In winter the track and terraces are kept free of snow. The rest of year the whole roof park is available. Crops of vegetables are harvested and various playgrounds facilitate sporting. The roof environment clearly targets to bring health to the students, tutors and staff. Parts of the roof can be made public.

PUBLIC SPACES AND VOIDS

Social sustainability requires the academic world and public world to mingle. To make a functional tissue, various types of open communicative and distributive spaces are introduced.

Boulevard is the main street that feeds all departments. It connects three plateaus that mediate the terrain heights. Halfway this boulevard the learning center and central administration with staff facilities are located. From the boulevard all patios are visible.

Streets emphasize the different departments and make links to the surrounding campus. Some parts have closeable roof parts that make the streets into half climate gallery spaces. Neighboring departments can organize public and interdisciplinary 24-h events in the streets together.

Patios make the heart of each department as social art exposure spaces that are well embedded in the public environment and visually connected to the boulevard. Each patio has a vertical icon that makes the main department entry and connects all levels. The icons with the circulation spaces of each department have a specific color.

Micro patios make connections from the focussed academic world to the gardens on top and the public realm below.

type 1: Small indoor patios at +1 academic level are glass terrariums like downward extensions of the gardens. Beautiful glass cases with plants, flowers and butterflies change the brute concrete floors into a luxurious environment. The glass terrariums can be opened to bring the natural environment inside the focused academic level.

type 2: The narrow openings in studio spaces at the +1 level and +2 garden level floors can also hold narrow private stairs for students and tutors to go down public into gallery spaces (ground floor) and up into contemplation at garden top level.

CENTRAL SQUARE

The central square is visually and programmatically linked to the boulevard and to the main building. At academy floor level a huge suspended screen displays real time media on international art and related topics and optional advertisements. All students and other pedestrians are up-to-date at all times. The square has a public stair up to the gardens and down to the parking and metro station.

PARKING

The parking is concentrated below the central square and above the mezzanine floor of the metro station. The passage of the escalators is in the center of the parking. Two underground parking legs connect Eastward and Westward to the campus road system.

VTT BUILDING

The VTT building is also networked by placing the additional program as links in between the building volumes of the current layout. Court yards are made. Each yard can have its own use, quality and finishes.

CLIMATE SYSTEMS

Concrete core activation (CCA) is applied because of its efficiency and because of the extended floor fields. Exposed concrete floors and ceilings radiate warmth in winter and coolness in summer. A deep underground reservoir is required for storage of water. The facades have two insulated and ventilated glass parts, the narrow cavity in-between is air conditioned; warm air is extracted and re-used through heat exchange units. A system of horizontal facade lamellas closes at night to

reduce energy loss.

MATERIALS & FINISHES

Brute materials are applied as much as possible. Finishes are scarcely applied; only where needed, like entry areas and circulation spaces. Ducts, pipes and cables are visible, running along the concrete ceilings. A dense pattern of LED lighting is applied in the interiors like a 'suspended' ceiling below the brute concrete. Students have lots of opportunities to create and tune their own environment.

Structural system

Columns, beams and floor slabs are cast/prefab exposed concrete. Floors and ceilings are exposed to allow warm and cool radiation for climate control. Exterior concrete ceilings are insulated and finished.

Envelope

At street level, façade parts are to be opened whenever a studio goes public or as soon as departments start working together. At academic level all facades are made of glass with the aluminum lamella system in front.

Circulation space

Floors, suspended ceilings and icons have their typical color in each department. Circulation is organized around each patio of all departments.

Public floor

The public campus floor within the project is finished in hardwood planks with 'fingers' that reach out to the rest of the campus. Public furniture is made in groups of 'rocks' with indirect lighting underneath.

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THE YELLOW © 2013

urban competition - Sixty Nine Seventy - the Spaces Between - Salt Lake City

client: Downtown Alliance, Salt Lake City

design: Monolab

team: Jan Willem van Kuilenburg with J. Manuel Ballesteros Hernandez, A. Salvador Martin, I. Salianji, J. Roleček

THE YELLOW

...a network like a maze, allowing tourists, visitors and citizens to enjoy a trip, a cultural safari...

THREE WORLDS IN UNISON

Salt lake City has a powerful series of three twin blocks that cover:

- History: a campus model, a green park-like environment with important historic-religious buildings,
- Retail: one new retail center with public core,
- Culture: an urban tissue with a small scale network that ties high culture and subculture together.

The synergy of these three qualities in the city core will become very powerful if tourists, visitors and consumers will merge in an environment of place making. Our target is to complete this Salt Lake City trinity by making the daily thousands of visitors, tourists and citizens stay longer and enjoy this unison.

BOULEVARD

We propose South Main Street to become a pedestrian boulevard while keeping the current tramway. Vehicles are redirected around the 69-70 block. The boulevard has a relaxing zone of grass with planted trees and two wooden meandering sidewalks that offer more place making and public presence to the retail and businesses on South Main Street.

THE YELLOW

We introduce The Yellow, a network like a maze, allowing tourists, visitors and citizens to enjoy a trip, a cultural safari, a journey with unexpected cultural programs over roofs and through hidden courtyards. The yellow brings (visitors) and integrates (expansions of cultural amenities, institutions or businesses).

POTENTIAL

Creative industries are linked through The Yellow that traces the ruptures and gaps of the 69-70 block. The network and tentacles of The Yellow can easily adapt, adjust and transform in time, going along with potential project developments and shifting property borders. The electric power that feeds The Yellow comes from two fields of solar panels on rooftops.

ARCHITECTURE

The Yellow is made of steel. Easy to construct and easy to adapt, paint, repair and recycle.

12 SIDE PROGRAMS

Apart from the high culture programs along the grid and streets, unexpected spaces are activated through The Yellow. Several cultural buildings, parking facilities and backyards are 'side-programmed': enhanced by new 'pop up' programs that are attached to five existing cultural amenities and parking facilities.

BOULEVARD - South Main Street is to become a pedestrian boulevard with the current tramway. Vehicles are redirected around the 69-70 block. It makes the main entry to The Yellow. The boulevard has a relaxing zone of grass with planted trees and two wooden meandering sidewalks that offer more place making and public presence to the retail and businesses on South Main Street.

SALT LAKE CITY FILM CENTER - This cultural asset is topped with an extra lightweight inflatable cinema space for screening of underground art footage inside. It also screens a display of simultaneous recent interviews with international artists and curators onto the facade of UPAC.

PARK PARADISE - A green and natural oasis within the urban turmoil. The Yellow offers an entry pavilion and water curtain to protect this public pocket park from the sounds of South West Temple. All other sides of the park are made of lush vegetation screens.

ARTISTS IN RESIDENCE - Inflatable lightweight accommodation and studio on top of parking facility. Intended for artists in residence that are invited by Salt Lake City cultural institutions.

BICYCLE HUB - The Yellow stimulates bicycle use. It makes a tube through the parking facility to make a bicycle shop with maintenance and repair services. It also connects to the parking roof.

URBAN PLAYGROUND - A temporary sky deck on top of this parking facility offers an urban playground with street sports shop, sports facilities, DJ's and a stage for pop concerts. This facility will deliver more business to the parking owner.

ART STREET MARKET - A tax free zone for weekly or daily art sales by artists.

HOPE GALLERY ROOF DECK - The gallery roof is topped with a suspended inflated lightweight exhibition space for underground art and opening parties.

TUNE YOUR CAR - The Yellow makes a suspended deck over the current parking lot for an auto and bike tuning unit. This attracts lots of sightseers that might decide to have a tattoo and a drink. A projection tower screens art movies from the parking lot.

FOOD GARDEN - A deck with terraces, shared by surrounding restaurants and shadowed below a screen of ivy.

CINEMA - Utah Arts has an inflatable cinema space with terrace on top of the current building.

URBAN SIDE STAGE - The small backyard next to Utah Arts Theatre is transformed into a small arts square for side stage performances.

SKIN © 2013

open design competition - Transformation Fence Ground Station 14 - Delft

client: TenneT

status: 2nd prize

design: Monolab

team: Jan Willem van Kuilenburg with A. Oche Marquino, J. Roleček en K. Szóstkiewicz

SKIN

...a soft skin of leaves visualizes the wind...

TenneT design competition to beautify the fence around a ground station for a transformer unit of the new Dutch 380 KVoltage network.

SKIN covers the fence of the ground station with a layer of leaves.

The leaves are made of very thin, polished spring steel which translates the wind into intriguing moving patterns.

Each leaf is laser cutted from spring steel sheet and mechanically bent into a shape that makes a connection through only one rivet. In a regular pattern each leaf is mounted to a cross point in the grid of the fence.

The leaves are directed outward and respond to the wind. Together they make wave-like patterns. As such the wind is literally displayed. The shiny surface of the leaves will clearly show the synchronously movements through reflections of sky and surroundings.

To avoid too much wind pressure, the leaves are designed not to be blown flat against the fence. The maximum wind pressure of 20% of fence surface makes the friction of the wind along all leaves.

The 6000 leaves are cut from polished stainless spring steel sheets with laser cutting techniques. Through mechanical bending each leaf will have its specific connection. The stem of each leaf will be manually fixed around a cross point in the fence with only one stainless steel rivet.

The stem is designed to take lateral forces, friction and torsion. The section of the stem spreads all deflection to avoid metal fatigue.

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GLOW © 2013

open design competition - Transformation Fence Ground Station 14 - Delft

client: TenneT

status: 3rd prize

design: Monolab

team: Jan Willem van Kuilenburg with A. Oche Marquino, J. Roleček en K. Szóstkiewicz

GLOW

...interactive patterns of light...

TenneT design competition to beautify the fence around a ground station for a transformer unit of the new Dutch 380 KVoltage network.

GLOW does not try to hide or blend the transformer station into its surroundings but instead enhance it in a positive way.

The electromagnetic field (EMF) around the ground station is translated in an ever changing visual experience. It fits the context which has changed from agricultural land into peripheral mixed urban surroundings with paths, recreation, a highway and a nearby residential neighborhood.

5.500 independent LED-pods are attached onto the fence in a random pattern and charged through integrated solar cells during daytime. As dusk sets in the pods start to radiate light. As the luminance is dependent of the local strength of the EMF, a low value will result in little luminance, a high value in a strong effect. The EMF has fluctuations which are translated in wavy patterns of light, comparable to the northern lights. In case of little activity it will look like a starry sky.

The pods function autonomously, charge themselves and are watertight and maintenance free. Pod and backing have an internal push-click closure to avoid removal.

The pods contain a LED unit, a light cell, a coil, a chip and a battery. The coil measures the strength of the EMF and the electronic chip regulates the quantity of electricity from battery to LED unit. Responsive sensibility, response time, maximum luminance and possible colors are parameters that can be set to match the specific surroundings. The 365-m² surface of fence is accommodated with 5.500 pods. In terms of wind pressure this equals 4.3 %, far below the 20% maximum surface.

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EXPLORER © 2013

open design competition - Mapo Oil reserve base - Seoul

client: The Public Development Center, Seoul Metropolitan Government

design: Monolab

team: Jan Willem van Kuilenburg with A. Oche Marquino, K. Szóstkiewicz, F. Virgillito, G. Zaffini

EXPLORER

...a live lab for smart cities...

'Awareness of added values through synergic cycles makes smart cities'

The Mapo Oil Reserve Base is a relic of the industrial era. It was an important facility built in 1976 to store oil for the country for emergency reasons. Five storage tanks were buried in order to manage oil reserves. During the construction of the 2002 World Cup Stadium at close range, the oil reserve needed to be moved. This competition is the first step to change the reserve, located in Sangam, an area of regeneration for nature and citizens. Once an abandoned mountain of waste, it now could lead the future of Seoul.

In our approach the Mapo Oil Reserve Base can be transformed into a global Explorer to test strategies that make smart cities. How do synergic cycles (of energy, food, health, social media, research, governance and finance) make smart cities? If we close and interconnect these cycles in the right ways, they will support and feed one another and we will be able to create carrier systems for smart cities. The project will have a globally unique urgency if it tests and displays the most complete smart city system known today. Smart cities are functioning and supported by interconnected cycles of materials, energy, learning and human behavior.

In Explorer we have grouped six cycles; five will occupy the tanks and the sixth is entry-foyer as a new stretched 'wing' in front, connecting all. Tank 1 = health, Tank 2 = food, Tank 3 = energy, Tank 4 = social media, Tank 5 = research, Wing = foyer + governance + finance.

Our proposal is a scaled, operational test site to study smart city systems. The project EXPLORER is a fundamental scientific research lab:

01. It focuses on the main parameters of smart cities,

02. It encourages people to explore and learn the importance of smart cities

03. It explores smart city cycles through scaled testing^(1:200) of 21 cyclic processes,

04. It happens in a live lab on a smart plant,

05. It operates for the next generations,

06. It is based upon open data,

07. Its process is exploration + experimentation + evaluation + co-creation + implementation + sharing,

08. It is monitored through surveys of interdisciplinary teams of Universities, market and politics,

09. It feeds discussion & communication between people + governance + science,

10. It creates added values for sound and healthy future life,

11. Its 21 components are: ENERGY with 1. energy, 2. production, 3. distribution, 4. logistics, 5. safety. FOOD with 6. food, 7. waste, 8. compost, 9. marketing. HEALTH with 10. health, 11. lifestyle, 12. mindset, 13. interactions, 14. legislation. SOCIAL MEDIA with 15. social media, 16. experimental learning. RESEARCH with 17. research, 18. creativity, 19. education. GOVERNANCE with 20. governance. FINANCE with 21. finance.

By removing soil at the front base of the tanks, Explorer can be embedded. The tanks are exposed and have entries and little plazas in front. The retaining walls, plaza's and path are made of concrete. The cycles are scaled (approximately 1:200) and realistic, they process real materials and real data. It is a live lab, with testing and monitoring by students of Seoul National -, Hanyang -, Korea -, Yonsei - Universities and other involved stakeholders. At the same time it is a living expo, with teaching, learning and visitor facilities. Materials, processes, students and visitors are bundled together and follow the same paths. The lay-out of Explorer adapts to the morphology of the hill and the landscape. The wing with attached pavilions are made of sustainable materials, wood harvested from the site and glass. Specific use of materials and detailing will give the wing embedded qualities: 1. the glass facade covers both complete sides and can visually reflect the natural environment of the site and 2. the roof is covered with vegetation and is connected to the ecosystem of the hill.

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THE IVY IS COMING © 2014

open competition - Fabriikaat #2 Nijmegen

status: competition

design: Monolab

team: Jan Willem van Kuilenburg with B. Fernandez, S. Kounaki, L. Larrauri en V. Pitta.

THE IVY IS COMING.....!

...primitive hut 3.0...

Fabriikaat is an artist collective which has landed among others in the former Honig factory in the city of Nijmegen. The factory complex mainly consists of a mix of neutral materials, steel roof structures, corrugated finishes and concrete. The collective identifies a lack of vegetation and has organized the competition Fabriikaat #2 for the design of a low budget garden at four possible locations within the complex.

Our reference is Marc-Antoine Laugier's primitive hut which is constructed of pure plant material and –based on Vitruvius– supports a 18-century plea for constructive simplicity and clarity.

In this proposal for location 1 (on the roof of the Fabriikaat space) we designed a growing vegetation system that originates from an incubator and spreads throughout the whole complex.

It brings life and improves interior climate. Locally people can 'tap' the ivy to spread along interior walls. Extra containers for Clématis can be added locally.

For construction, students of the Arnhem Academy of Architecture, local technical education, Radboud University and a student in landscaping will assist.

Maintenance is simple; the plants grow in a hydronic system that needs to be fed once a month.

Clipping of the plants also happens once a month.

The ivy is carried through the complex with trays of mesh metal and TL tubes. 60-meter distances can be made by the ivy under good food and lighting conditions.

The ivy passes walls and facades and spreads in various directions.

To make thermal crossings, wooden panels and insulation can be used.

The ivy (*Hedera Helix L.*, a.k.a. English ivy) stays green during the year and grows at high speed (20 cm per week).

This growth is experienced in a large part of the complex.

The incubator on the roof is made of two rows of containers with lightweight clay pebbles and a time clocked irrigation system. Through suspended steel nets that support the plants and envelopes the stairs, we avoid a heavy structure and we make a space, a pavilion.

Steel IPE beams are mounted onto the steel trusses of the roof structure.

From these beams the nets are suspended by thin cables.

Inside the pavilion we create space for meetings, presentations, lectures, café, expositions and workshops.

At the top of the stairs the net is folded to allow an entry with green terrace for Fabriikaat #1.

A big light is suspended above the pavilion which creates beautifully filtered light inside.

We plant Clématis as well for adding colour.

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AGROPOLIS FOOD CAMPUS © 2015

client: VZW Boterakker

status: research - sketch design

design: Monolab

team: Jan Willem van Kuilenburg with Blanca Font Fernandez, Stamatia Kounaki, Almudena Lacruz, María Martínez Ruidiaz, Ana Mrden, Valia Pitta, Agnieszka Sygacz, Andri Tsiouti en Pasqual Vernich Hermano.

FOOD CAMPUS

... embedded cyclic programs...

The client VZW Boterakker is planning the Agropolis project on a terrain of 40 ha East of Kinrooi village. It is situated between a lake, a deep hole made by local the gravel industry and conventional agricultural land. It covers the planning of an agricultural business district for newtech agriculture and horticulture and in due time a collective building. This innovative food industry starts up the transistion of conventional regional food production. The client targets onto new types of cops through new cleantech and sustainable techniques including green energy.

points of departure terrain

Our survey focuses onto durable new agriculture, improving local climate for citizens of Kinrooi, reinforcement of natural values, water recreation and tourism, development of synergic qualities which will transform the area into a pearl of River-park Maasvalley.

intensification

The area, like a park or campus, is a programmatic intensification like a fine tuned structure of small and midsize plots and a short term lease system. This intensification is to start up: 1. variations of programs and synergy of stakeholders initiatives (local administration, startups, companies, food professionals, visitors, tourists) 2. An adventurous campus with a maximized variety that triggers participation and visit and stay for longer periods. 3. Flexibility for growth and small scale local initiatives and startups through compact plots with short term leases.

loop

The intensification fits within a loop which is already potentially present around the lake Visen Akker. On the mid term run the consession for the remaining gravel industry will expire. We anticipate for a transition of the South part as well.

cycles

Cleantech and a conscious application of cycles and energy resources fit together. Exchange of thermal energy surplus and waste water demand cooperation of industries.

water

Water will play a significant role in Agropolis. The subsoil water moving Eastward is of high quality and fits water based crops and aquaculture very well. Also natural helofyte filter zones can connect to context and deliver added natural values.

geothermics

The area fits a geothermal plant that could be part of the agri collective building. It could deliver energy on a larger scale to neighbouring villages.

synergy

The project is based on a translation of Agropolis principles into a productive architecture, into embedded cyclic programs in synergy with nature, agriculture, aquaculture and architecture.

ten principles

01. A small scale plot and path structure triggers variety of programs and will connect to the green hinterland and historic cores. 02. From the start local administrations will finance and maintain public nature and facilities on spread plots as to activate the area from the start. 03. Every plot develops through an active plot passport with binding qualities (prprogramming, height, foot print, synergic parameters, etc.). 04. Plots will be leased on short term contracts. 05. Paths and plots evolve through temporary programmes. 06. Plot owners will become members of a trust. 07. The trust realises the first phases of paths, including maintenance. 08. The trust will realise a number of landmark like collective buildings for a second series of plot releases. 09. Paths are public and will not be blocked; connections between buildings are at +1 level. 10. All initiatives contribute to ecology, sustainability and cycles of people, water, energy, products and waste.

agro collective building

The building is a connective pavilion, embedded and in sync through cycles and with its surroundings. The first sketch models have a quality in common, a throbbing heart made by the expo, the labs and production spaces: agriculture and aquaculture, food production of the past, present and future. The collective building represents the campus, including possible geothermal and biobreeder plants.

OPEN VALLEY © 2014

client: GB IMMO d.o.o.

status: Competition for preliminary urban and architectural design for the future urban zone of the Klekovaca Tourist Centre on Klekovaca Mountain

design: Monolab

team: Jan Willem van Kuilenburg with Stamatia Kounaki, Luis Larrauri, Ana Mrden, Valia Pitta, Agnieszka Sygacz, Pasqual Vernich Hermano.

OPEN VALLEY

...project zoning...

opportunity

Most mountain resorts have standard lay-outs and a shortage of added values. We designed a lay-out with improved integration, higher efficiency and higher potentials for landscape, programming and architecture.

valley

Through parameters like sunlight, shadowing and scenic views, the best part of the given territory can be found on the South oriented slope in the North part. We reserve this part for accommodation, commercial, dining and hospitality facilities. In this way the valley is kept available for all outdoor and sporting programs.

coastline

We designed a kind of 'coastline', a dense ribbon, that overlooks the valley with 'islands' and the skiing plateau on the other side. The ribbon is a spine, a connector between the tourist houses and the climatic health resort higher up the slope and the lower valley with green islands for sporting and health facilities.

project zoning

A series of interconnected parallel zones have emerged. From north to south:

1. tourist houses and climatic health resort, higher up the slope,
2. ribbon: accommodation and facilities with pedestrian paradise on top of a logistic parking level,
3. golf courses,
4. local & regional programs markets with products, culture and crafts,
5. fruit gardens mixed with a playful stream and water activities,
6. golf courses,
7. camp sites with starting points for hiking trails into the mountains.
8. skiing plateau with parking, facilities and two gondola stations to the valley.

logistics

The zones are strongly interconnected through an efficient logistical system; 1. entry road system with split to north and south part of the valley, 2. an electric minibus system, 3. a golf cart system, 4. two gondola systems, 5. service vehicle roads, 6. valley paths for a. shortcuts b. leisure, c. walking & cycling d. horse riding. 7. The park surrounding the Climatic Health Resort has two types of paths: a. an organic system of paths that trace the slopes of the terrain and b. a formal system of open axes between the trees. The entry road from the East into the valley splits North to ribbon, tourist houses and climatic health resort and South to parking and skiing plateau. Crossing the valley are walk able distances of around 650-m and also two gondola systems are planned from skiing plateau to tourist houses and climatic health resort. The ribbon has a service level with service road below. The tourist houses have a series of friendly streets, parallel to the slope with spread small parking lots. Five pedestrian shortcut paths cross the complete valley from the tourist houses and climatic health resort.

phasing

The ribbon and holiday housing are developed in three phases from east to west. The valley is developed as one territory during all phases with spread programs. The skiing plateau parking is developed in one, the facilities at the center as phase one and the two outer parts in phases two and three. The climatic health resort is developed in two phases, the first is in and behind the ribbon, the second is higher up the slope. The gondola systems are developed in two phases, the second phase is depending on the construction of the golf hotel.

tourist houses

The slope with detached tourist houses is multi terraced, so each house has privacy with several terraces around, in-between the parallel roads. The terraces are planted with trees and offer scenic views over the valley and skiing plateau towards the southern light. Seen from the valley the slope looks natural because the tourist houses are hidden among the trees. All houses have different designs, are oriented individually and consist of a stone plinth with wooden structure on top. All houses are accessible by car and have private a car park. Part of car parking is also situated in the ribbon and spread collective parkings. The gondola system has a station in the heart of the housing area. Five walking paths descend in-between the houses to the other side of the valley.

climatic health resort

The resort has its foyer in the ribbon and three islands with open public wellness facilities in front of the valley. The foyer in the ribbon is a glass pavilion inside a 'hortus conclusus', a walled garden with healing herbs and plants on terraces. The products of the garden are for enjoyment and for sale.

A path from the valley leads through the foyer into the resort. The resort itself is embedded in the forest by six open spaces with plateaus. In these open spots we placed dedicated, organic pavilions. Each pavilion has an internal patio with specific plants with healing qualities. All pavilions are floating one level above reception, health and sporting facilities. The center pavilion is elaborated, it is split in two parts with an underground connection and two patios at outer ends. The park

surrounding the pavilions has two types of paths: an organic system of paths that trace the slopes of the terrain and a formal system of open axes between the trees. The formal axes deliver visual lines over the valley that connect components of the project, for example from the skiing plateau to the foyer and main building of the climatic health resort.

ribbon

The ribbon is the most dense and urban part of the project. It is built on a long plateau which is excavated from the slope. The surplus of soil coming from the plateau is used nearby for the landscaping of the golf courses in the valley in a closed soil depot. The ribbon is made of buildings with atriums that offer a string of different fine-tuned public spaces. The ribbon has a service level for transit traffic, public transport, logistics, delivery, storage, HVAC plants, piping, cables, sewage, etc. On top of this service level is a public deck, a pedestrian boulevard finished in five colors, with a series of blocks that are perforated with public programs. Five specific blocks make connections between paths from the tourist houses to the pedestrian boulevard and the valley through 'antennas' that reach into the valley. The paths run through the atriums of the buildings, offering opportunities for retail and cultural amenities. The five antennas from west to east are: cultural center, night clubs, golf club, casino club and church. The ribbon has a long public balcony in full sunlight with stairs, overlooking the valley. The wall, the vertical building at the North side of the ribbon, is programmed with retails, apartments, penthouses, terraces and crossings of public paths on top.

valley

The valley is made as an archipelago of small islands with a variety of sporting, leisure, nature and cultural facilities. Golf fairways make the edge of the valley. Different types of paths for pedestrians, cyclists and horse riding make connections between the islands. Five dedicated paths are connecting the tourist houses, the ribbon and the climatic health resort with the other side of the valley and the skiing plateau. The valley has several clusters for local products, fruit gardens, golf & sporting and campsites with starting points for hiking trails into the mountains.

skiing plateau

The skiing plateau is on top of the 2-layer parking facility which can be constructed above current ground level. A small part that will have to be excavated delivers soil to merge the superstructure inside the morphology of the mountain slopes. Parallel to the parking and below the skiing plateau is the road system with entries and exits. A delivery ramp for large vehicles connects from the main entry road to the edge of the skiing plateau. The parking facility has clear walking paths for people with ski and snow gear. A central zone has heated storage lockers for ski equipment. At the valley side of the parking is a commercial zone with two stages, terraces, and catering. Between parking and strip is a zone for natural ventilation and evacuation. Along this zone are logistic spaces of the commercial strip for vans and small trucks that can enter the parking as it has 3,5 m high clearance. Walking bridges are connecting parking and facilities. The commercial facilities are designed as pavilions on pedestrian decks below a scaped roof which fits the mountainous sky line. The center has the two gondola stations to the tourist houses and the health resort and a ski slope with stairs and path into the valley.

micro climate / sustainability

The ribbon will not have heat island effects because it is narrow and well ventilated through the little streets between the building blocks. Grass from the valley enters the ribbon in some place. There will be hanging gardens along the wall from the slope with the tourist houses. The sewer, waste and cleaning system are all connected through the energy cleaning plant at the start of the ribbon. The water stream in the center of the valley has helophyte filters for natural water cleansing in the summer.

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SEOUL GET READY © 2015

client: Seoul Metropolitan Government

status: International Ideas Competition for the Urban Regeneration of the Jamsil Sports Complex in Seoul

design: Monolab

team: Jan Willem van Kuilenburg with Carmella Basile Rognetta, Marianna Vincenti, Francesco Orteschi, Matteo Boveri, Pedro Arnanz Coll, Noemi Niro, Alexandra Ionita Mihaela.

SEOUL GET READY

*...urban leisure programs like plankton...***garden**

Jamsil can change from an asphalt sheet into a Garden with grass and pine trees. It has a flexible programming of sports and amenities. It is a restoration of natural scenery, health oriented and adding greenery to public forest. The Garden is made of linear lines with pine trees that allow free views at eye level. The Garden makes lots of natural landscaped rooms for a wide array of most sports in the world. The Garden absorbs the stadiums and sports: quiet sports in the center and more noisy and hectic towards the Urban Loop. To protect the Garden and the facilities it has a visually open perimeter fence which welcomes visitors between sunrise and sunset. It has the characteristics of a hortus conclusus.

plateau

The canal-riverfront is made of the long Plateau which has the potential of an urban beach. It is an ideal location (spacious and isolated) for adrenalin driven sports and stunts, the third category. We propose a morphology of dune shaped islands that create a varied and exciting landscape which will flood a limited time of the year. The islands will have specific programs on top, accessible by foot bridges, and other programs will be stretching along and around the islands on the Plateau. Along the river a series of piers extend from islands. The Urban Loop runs along and serves the complete length of the Plateau. Along Tancheon waterfront a series of mixed use towers for startups and apartments are planned.

programming

The three zones allow three different categories of sports: natural sports in the Garden, urban sports along the Urban Loop and adrenalin sports along the Plateau. The sports are the basic program which is to mix with surrounding leisure and cultural and commercial activities and pavilions. Programs are small and atomized, behaving like plankton, which allows a flexible and balanced development. The mix will fit all people of all ages: children, men, women, elderly and disabled. Maintenance by non commercial communities, clubs and volunteers will make citizens involved, responsible and happy. The exhibition-convention center is nested along the inside of the Hangang embankment. It has a linear foyer and a huge glass facade with views onto the garden.

stadiums

The current logistics of the stadiums can be simplified. We propose to 1. demolish current decks and 2. instead build simple rings around the stadiums to facilitate the large flows of people and 3. to add business programs above and 4. truck&coach logistics below. The rings can be easily accessed from the urban Loop. Visitors of the stadiums will have opportunities to enjoy the wide variety sports, activities and amenities in the Urban Loop and the Plateau. The architecture of all stadiums is very muscular. We propose to apply a soothing strategy of deploying tensile mesh membranes as new skins. The membranes are at least 50% perforated to reduce wind pressure and allow natural ventilation. Facades behind the membranes are not representative anymore and can simply be maintained. The membranes will be artificially lighted from inside and projected upon. In this way the stadiums will be more emphatic through an ever changing appearance and will become broadcasting and advertising devices for the ten thousands of people around. In this way the stadiums will generate advertising revenues that can be invested in maintenance. To make the stadiums programmatically resilient we added volumes for business related programs on top of the rings. These added ring shaped volumes can be extended further.

urban loop

It all starts with the Urban Loop which is on top of the underground parking/ring road and on top of the embankment along Tancheon and Hangong waterfronts. Instead of being just an edge or perimeter of Jamsil, it has spine- and pedestrian boulevard-like qualities because it encloses the Garden with stadiums on one side and the Plateau with adrenalin-driven sports on the other side. The Urban Loop contains a mixture of urban types of sports, pavilions for commercial and cultural amenities and accommodation to stay. It is an interface with sideways entries to the underground parking, the Forest, the Stadiums and to the adrenalin sports, COEX and districts. Half the Loop is at grade and the other half is on top of the embankment. The embankment itself, which offers great views, takes the mixed programs on top. A series of tall structures on the embankment along Hanhang River offers adrenalin sports at high altitude, like a big wheel, para gliding, base jumping, parachute jumping, bungee jumping and freestyle climbing. The Urban Loop will function 24/7 and is also meant for citizens of surrounding districts.

infrastructure

The project optimizes infrastructure, parking and public transport. At grade it allows free access of pedestrians and cyclists. Visitor vehicle traffic has access to the parking below the Urban Loop via the entry-exit lanes of the current road system. Coaches, busses and trucks are kept at grade and have access from Olympic-ro in the south and Baekjegobun-ro in the east to all stadiums via two specific service roads along the Loop that lead to circular one-lane parkings around all stadiums. Maintenance and security vehicles, like police, fire brigade and ambulance can access the Garden. Fly over's that connect the Bongeun Bridge with the undergrounded Olympic Road (section D) will keep the top of the Embankment Loop free of vehicles.

BLADES © 2015

client: OZ Italy - ReDesign the Wheel

status: conceptual product design

design: Monolab

team: Jan Willem van Kuilenburg with Marianna Vincenti.

BLADES

...a side view strategy...

brief

OZ is looking for an after-market wheel, a substitute product which is sold and installed at tyre shops and specialised centres in place of the original wheels provided by the car makers in their own catalogues.

The wheel will be realised with a light aluminium alloy with heat treatment, it will be obtained with low-pressure casting technology and subsequent cnc machining.

It should embody the RACING DNA of OZ, conveying all the aggressiveness and strength of the brand, highlighting how the lightness, quality and attention to detail are key elements for the products of excellence by OZ.

The target consumer for the wheel is made up of men, aged between 18 and 40 years with a mid-high spending power.

strategy

If we consider current alloy wheel design, we have to make a distinction between the side view and the cross section of the wheel.

Usually wheel design works with side views and tries to impress people with lots of manipulated alloy in all kinds of configurations and shapes. There is an end to this approach however, as all available designs look more or less the same these days.

From this approach we deviated and tried to follow a new strategy:

The frontal side view is made as open as possible by thin spokes and is becoming impressive by allowing deeper views onto the brake disc and - system.

As a result the spokes between center and rim will develop further in depth into blades, in the cross section of the wheel.

The perspective views onto car body and wheels will get more impressive street credibility because of the contrast between minimalistic frontal side view and more complex and intriguing perspective views.

design principles

We have applied five design principles

1. frontal side view

Five spokes (blades) are as thin as possible in frontal side view.

2. flange

The center (flange) is pushed back behind the blades and there is no hub cap.

3. blades

All design effort goes into the five blades that connect the center to the rim.

The blades are as thin as possible from the frontal wheel view.

The required quantity of alloy has to come from deeper blades.

The deep blades are designed to save material and weight while delivering sufficient structural support.

4. OZ logo

The OZ logo is applied to the deep rim, like the decals onto race bicycle wheels. The logo is cast on top of the rim surface and repeated five times between the five blades. The logos all look different because of a difference in reflections.

5. finishing

The hub has to stay in the back and is finished in dark anthracite color. The rim has a matt alloy surface. The blades and logos are polished and as shiny as possible. This will give an impressive effect even when the wheels are not spinning.

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INTERFACE © 2015

client: Alvar Aalto Foundation, Jyväskylä Finland

status: conceptual design

design: Monolab

team: Jan Willem van Kuilenburg with Sara Marino, Alexandra Ionita Mihaela, Ruxandra Milut, Lyubomira Momcheva, Noemi Niro, Sonia Betiuc Rebeca

INTERFACE

...a humble, neutral and connective architecture...

Interface mediates sideways between two Aalto museums and the gardens in front and back and vertically between main space and working spaces below.

connectivity

It can change appearance and functionality through 5 semi-transparent curtains on four sides and in its center.

At the front and back it is stainless steel chain mesh, on the two museum sides it is white fabric and around the shop in the center it is a glass curtain.

The curtains can be lifted and shifted in many ways to change transparencies and accessibilities on all sides.

They will tune the visitor flows, the accessibility, the appearance and the contact between museums.

Each time the curtains will tell in what way the interface will function; like a temporary entry, like a reception room, a connector, a mini expo, a stage, a studio, etc. Interface will always look different.

neutrality

It is neutral and acts as an in-between. On the exterior it shows very little; no traditional visual information like a roof edge, floor, entry or windows.

humbleness

A simple path of flagstones leads to the steel mesh curtains and two standard glass screens with entries behind.

The current facades of the two museums on both sides have been opened up and have a glazed ramp, wood railings, glass cabinets for mini expos and the white curtains.

object

Inside this protected domain people will be surprised to find 'an organically shaped glass object', a source of light in its center. It is the shop with views into the two museums.

The object is defined by an opening in the roof, a glass floor towards the -1 level working stations and the glass curtain connecting both.

principles

Three principles of Alvar Aalto that are applied in this proposal are engraved in three circles in the polished concrete floor, defining places to stay.

the seats are made from cut trees that had to be removed to clear the building site.

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ULTRA LITE © 2015

client: Florim Milan

status: preliminary design for an expo stand

design: Monolab

team: Jan Willem with Kuilenburg with Alexandra Ionita Mihaela, Sara Marino, Sonia Betiuc Rebeca

ULTRA LITE

...a step into another world...

The aim is to realise a temporary architectural installation to showcase images of the most relevant architectural works built with Florim ceramics.

How to create an installation that can, on one hand, embody the Florim brand and, on the other hand, illustrate its achievements? The installation must be of easy construction and removal (less than 2 days per operation); it is required that the installation can be dismantled and reused in multiple contexts.

A survey of historic and contemporary examples of expo stands made us aware of the over abundance of physical materials applied. We took another approach and tried to make ULTRA LITE as light weight as possible with as little material as possible. We propose to project and communicate everything through interactive beamers. These beamers are pre-programmed and interact with the public.

ULTRA LITE makes you step into another world. It is a suspended golden cube with a bright interior which is completely interactive. The public can see presentations and also take initiative by looking up deeper information on the sides and floor projections.

Our approach meets the client wish to make transport, montage and disassembly as quick and easy as possible. All parts are made of light weight materials. Preferably carbon fibre parts, but aluminium alloy 6061 / 7005 is a good alternative. Both are the lightest and stiffest available materials.

Ultra Lite basically consists of four sets of components: floor, structure, equipment and skin.

1. floor: lay-out of modular floor panels. The panels are inter locked to make one sheet. A film on the floor sheet is to be vertically projected upon.
2. structure: a modular structural system cantilevering from a central pole.
3. equipment: montage and tuning of beamers, sound system and potential router.
4. screens and skin: montage of projection screens on the inside and golden skin on the exterior.

Inter locking floor panels made of light weight carbon compound make the floor sheet act as one stiff plane which will stabilize the central pole. Thin diagonal braces lock the floor panels together.

An ultra light and stiff tubular structural system allows very quick and easy mounting with push-fit without further tools needed. It is an outrigger structure with edge L-shaped profile that holds the skins on sides and ceiling.

All four side screens and the floor screen have content through projections from 6 interactive beamers. The beamers that we consider for this project are BrightLink® 500Wi series because of their interactive performance. This way the public can use their hands as a mouse in 'computer interactive mode'. To scroll up or down the page, or move backward or forward they can use gestures such as flicks. The interactive projections work like a search engine that reveals deeper information of the Florim products and brand. Up to six users can simultaneously work on the same screen. A micro sound system can be integrated.

The skin consists of two screens: a white projection screen on the inside and a gold metalized screen on the exterior side. The L-profile has two attachments for the two skins: a zipper for the projection screen and a Velcro strip for the gold exterior screen. Both screens can be attached and detached easily.

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FLOWer © 2015

client: unsolicited

status: product prototyping

design: Monolab

team: Jan Willem with Kuilenburg with Antonio Luis Robles Izquierdo, Cecilia Fanni, Francesco Caratti, Andri Tsiouti, Beatriz Alvarez Fontenla, Maria Martinez Ruidiaz, Agnieszka Sygacz, Carmella Basile Rognetta, Mauro Calderone, Pedro Arnanz Coll, Alexandra Ionita Mihaela.

FLOWer

...a device to boost co-creation...

History tells us that office space typologies have hardly developed for over centuries...

Why do we see nothing new, if we look at today's examples of working spaces...?

Why do we operate in the same office environments already for a long time?

Why do we still use many configurations of the same limited kinds of furniture over and over again?

Why do we daily need so many different spaces and different sets of furniture to meet, to work individually, to work together, to take a break, to present, to discuss, to review, to pass through creative processes?

Our current inadequate working space conditions suffer from a lack of adaptability and flexibility. We can do better than this by focusing onto the 'what' and 'how' of co creation processes. These processes have become more urgent than ever because they can be applied to decision making, product development and mediation in political, corporate, business and creative environments.

Organizations are depending on operational excellence and innovation. Today these processes are crippled, divided and slowed down because of our current inadequate working space conditions.

Our ways of working have shifted from 'me' to 'we' and support the most valued types of interactive collaboration.

Through co-creation we are able to integrate bottom up initiatives. We are able to sync IQ's and generate new insights that are embraced by all stakeholders.

What would be the interface to facilitate co-creation? How would it support and enhance all different mental states of its stakeholders during the several steps and phases in co-creation processes? How to stimulate group decision making? How to improve informal, social and creative interactions? MONOLAB introduces the FLOWer: A state-of-the-art platform to facilitate co creation. From Dutch design tradition we distinguished 12 phases with 37 steps, supported by 24 specific lay-outs that amplify and enhance all phases of creative processes.

FLOWer is a device for co-creation, a new typology for creative processing. It makes a leap forward through an integration of parts that we still use separately today. It consists of 3D objects made from planar sheet material. It is an assemblage of segments through intelligent combinations of orgware, software and hardware. It boosts working methods and co-operation of stakeholders. It supports creative thinking in fields like industry, marketing, politics, education and health care, where tough issues are transformed in challenging approaches. It delivers reductions of floor space, faster processes, deeper understanding and far better outcomes.

New ways of working are absorbed, like in 'design thinking', through which hierarchy in teams is erased and non-conventional input is embraced and in 'scrumming', where close co-operation with clients in cyclic feedback loops generates shorter processes and far better results.

This lay-out displays the conventional space use and configurations for a creative team of 9 members.

Compared to this, the most spacious layout of the FLOWer shows a considerable reduced floor space with a return on investment of less than half a year.

FLOWer has many options for embedded technologies, like digital tools, screens, LED lighting and sound equipment. Team members can participate and login on the router. Through open software sets of ideas, images, sketches, and texts can be made, shared and discussed. It fits lower budgets with sticky notes and whiteboards and it fits higher investments with beamers and projections. Extended configurations are made for testing and assessing the common results by three teams of a total of nine participants. The whiteboards can be linked together as a super screen for larger audiences. The beamers are pre-programmed to display in many screen lay-outs.

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PEP-RAM © 2016

client: Tapio Wirkkala Rut Bryk Foundation

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Francesca Testi, Flavia Oddi, Ignacio Rodriguez Vergara Dominguez, Naiara Ruiz Zuriarrain.

PEP-RAM

...a growing live archive that boldly looks ahead...

RE-ANIMATION

A new underground archive for the impressive heritage of works by the Finnish artists Tapio Wirkkala and Rut Bryk. Archives mostly have standard racking systems: they are dark, silent, repetitive, maze-like environments. Our proposal starts with a standard archive which is (re)animated and fully alive and looking ahead by absorbing all 5000 works of the artists with sufficient space for new works by contemporary artists that will be made in five labs.

ABSORPTION

All works of Tapio and Rut are collected, protected and displayed in this genuine archive; in a field of racks made of locally harvested Finnish timber. Several thematic paths can be selected to explore the archive. Tablets with apps will guide people through different categories. The archive is (re)animated by absorbing various facilities and amenities (labs, individual working modules, passages, coffee&vending, toilets) serving various target groups and individuals like artists, professional surveyors, the public, the media and the younger generations.

FACILITIES

The absorbed modules that serve the end users are: 1. entry foyer, 2. Perspex showcases that contain the works, 3. the innovation labs to experiment with different materials, 4. study/work modules for researchers / professionals, 5. passages to cross the racks, 6. children facilities, 7. toilets, 8. coffee/thee/fruit vending modules. The innovation labs (glass, metals, textiles, wood & plastics and ceramics) and working modules are meant to continue the innovation of crafts, research, design and production of new works, while standing on the shoulders of Tapio and Rut. New techniques and new products will be tested and developed by contemporary artists that work, produce and exhibit in the archive. Properly insulated and serviced spaces are made of laminated, coloured, glass partitions and equipped with the proper machines and tools. Part of the rack system continue inside.

The ceramic and wood labs are together and can transform into the lecture room. Two glass partitions can be stored sideways to make one space. Colored glass partitions take care of sound insulation. The passages through the racks around the perimeter will avoid dead end corridors. The existing four concrete columns are absorbed in the racks lay-out.

NAVIGATION

The virtue of having no windows makes inter-active lighting systems into real way finders. The archive space has dimmed background lighting from behind the slats and from below the racks. At the entry foyer, visitors will get a personal tablet with an app to navigate through the archive in many ways. Several thematic paths can be selected to explore the archive. All works of Tapio and Rut and the next generations of artists are in Perspex showcases. After selecting one of the themes, every next showcase will light up in the rack and also be visible on the tablet, assisting the visitors and professionals through the archive. After passing the showcase, lighting will dim again (activated through a NFC; near field chip system) and the next showcase elsewhere in the archive will light up and notify where to go.

PEP - RAM

In this way the works can be randomly placed in the archive (which makes an adventure) as every single item can be easily located through the NFC system. The archive functions like a 'people's RAM', a random access memory for people, which we define as 'PEP - RAM'.

SKIN

We propose a skin of local Finnish timber slats along the suspended ceiling and two walls of the space. Between concrete top and ceiling we can position indirect background lighting, climate control and services with routers and security systems.

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BIG TREE SUNCHEON ART PLATFORM © 2016

client: City of Suncheon

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Francesca Colavin, Dalila Pace, Francesca Testi, Flavia Oddi, Ignacio Rodriguez Vergara Dominguez, Angela Verrengia, Naiara Ruiz Zuriarrain.

BIG TREE

....test bed...

International Competition for Architectural Ideas Suncheon Art Platform

The goal of this competition is to make an art center that acts as a generator for the revival of the Old City of Suncheon; more than a showcase of art works it generates cultural and community activities.

Our proposal for Big Tree is a composition of three domains: past, presence and future are vertically organized around a central atrium.

two sheets

The project consists of two individually warped, white concrete sheets that together can make connections and spaces where programs can nestle comfortably. The sheet morphology is designed in two steps: 1. the top sheet delivers panoramic views onto Suncheon and 2. the lower sheet allows programmatic nesting.

The two sheets are suspended above the city floor. The top sheet is landscape triggered and the bottom sheet makes the arts center. Seen from around, the project has a shape like a tree and the center comes down to the new public plaza via the trunk, an atrium that holds the visitor center as heart of the project with main entry and exit.

new typology

The project brings a new exciting typology to the City and Metropolitan Region of Suncheon. It is a stack of three domains (historic domain, contemporary domain and the future urban domain) that work together.

The height of the project is limited to twelve meters: the scale is human and embedded in the urban tissue of the city.

1. Past (plaza at the city floor)

The new public plaza on the activated open city floor is well connected to successful programs like Fashion Street, Culture Street and Central Market. It is further propelled by the new visitor center and Yeonja-Ru to create a truly human city environment. The central point of the plaza is made by the hollow trunk with the visitors center showing a huge interactive model of the city of Suncheon. The Yeonja-Ru has a busy cafeteria at the plaza and its own terrace embedded in the relaxed garden on top.

Below the plaza are the shopping mall and the underground parking that have a new central connection in the plaza.

Various public events can take place on the plaza and sport facilities on the West side complete this attractive and dynamic environment.

2. Present (art center at +1)

The art center has a naturally shaped loop around the atrium that gives access to four exciting spaces in-between the concrete sheets. The spaces offer views in all directions onto Suncheon.

The morphology of the two concrete sheets allow the art center spaces to be among valleys of the garden. Two different worlds are together and make an opportunity for an art garden that has wide panoramic views onto Suncheon.

3. Future (garden at +2)

Urban Future is the third domain, made of vegetation and art garden, overlooking Suncheon and the Bay Garden area. It is a botanical, green, relaxed public space, made of various plant species that filter the local air and create a perfect local urban micro climate. After some years of growth it will become a live lab, a test bed for new eco city environments. Specific plant species will be tested and monitored by PhD students and experts together with local volunteers. The outcomes will define and perpetuate Suncheons future as an eco-city.

structure

The two sheets are made of concrete, poured on site and finished in white epoxy. The upper sheet that holds the garden has insulation, roofing membrane and an integrated water & nutrients system on top. Columns that coincide with the parking and bracings in the corners keep the project suspended over the city floor.

logistics

The project has elevators at the Yeonja-Ru and a visitor center. Three emergency stairs are in the corners of the project along the bracings. Two freight elevators are located at the exhibition center. The atrium has a spiral ramp to access the arts center and garden. The parking has an access vehicle ramp. The shopping mall and the parking have two elevators, two sets of escalators and two extra emergency stairs to access the plaza.

Busan Mulmangol Bunker Regeneration © 2016

client: Busan International Architectural Culture Festival Organizing Committee, Kyungdong Construction Co., Ltd.

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Vania Citraro, Francesca Colavin, Ignacio Rodriguez Vergara Dominguez, Flavia Oddi, Dalila Pace, Maura Rotelli, Angela Verrengia, Naiara Ruiz Zuriarrain

COLUMN OF LIGHT

...six ways to deal with a hillside..

In Mulmangol village, a small town sitting on the foothills of Hwangnyoengsan Mountain in Busan, an underground bunker facility has been left unattended for the past decades. As part of its urban renewal project, Busan Metropolitan City decided to provide administrative support for a speedy regeneration project of the underground bunker. The development of the whole area and the renewal of the bunker should naturally contribute to the improvement of surrounding residential area and also provide the appeal of a downtown tourist destination.

BUSAN TELLS US... that a varied mix of programs at macro and micro levels can make an expanding creative industry. That a mix of cultural, short stay and business programs is attractive for stakeholders, citizens and tourists. That art related programs will be able to develop.

THE HILL SITE TELLS US... that the hill sides are too steep to program and to walk. To avoid steep climbs and descends and for the easiest ways of place making we apply three techniques: 1. perforations in and through the hill, 2. embedded lateral building volumes in the sides of the hill, 3. suspended paths and plateaus on contour lines above the surface of the hill.

THE BUNKER COMPLEX TELLS US... that its layout is ready for making further excavations. ... that we can use the same structural approach of vaults to generate high quality architecture.... that we can transform the cross corridor into a pedestrian street crossing the hill.... that it is so deep down that we should make an atrium to the sky and also interventions sideways.

THE ATRIUM TELLS US... that it should be programmed all the way up.... that it requires special ways to move and walk up and down.... that it needs programmed ends: the bunker complex at its foot and a dramatic building at its top.

WE PROPOSE... an assemblage of components which is tuned to the local conditions of the hill. Components that function closely together as a network and also work apart if needed. A project with significant cultural weight that cannot be ignored; with major attraction for citizens and tourists.

components

The spine of the project is the atrium with two poles: at its foot it has the bunker complex and at its top a panoramic building. The bunker complex is partly excavated and acquires several typologies of exhibition spaces. Two pedestrian passages cross through the hill: one is the existing bunker corridor and a new one is made halfway up the atrium as a 'media and digital painting tube'. All parts together make a zone over the hill which is ready to become a relaxing flower and butterfly garden. The lower sides of this garden start at the existing bunker corridor with glazed lateral buildings with a hotel and short stay programs on one side and office spaces on the other side. From the garden two horizontal elevated paths, tracing the contour lines through the forest, bring visitors towards arts & crafts pavilions, to a parking, to a campsite and up to the panoramic building.

programming & functionalities

1. **ATRIUM + GALLERIES.** The vertical atrium is the major vertical connector between the two main poles (bunker complex below and panoramic building on top). It has internal 'spiders': structural supports to withstand the lateral pressure of the hill. The spiders carry floor fields for art galleries that make a marketplace, a trade center for art. In the center of the atrium a glass lift plateau moves large groups of people up and down like a dramatic event. Between this plateau and the galleries is a large circular stairs of monumental proportions.

2. **BUNKER COMPLEX + EXHIBITION SPACES.** The bunker complex currently consists of tunnels and some spaces. We propose to excavate the spaces in-between the corridors and around the spaces. It will become a complex that can feature thematic technological art exhibitions, experiments and personalized artist's exhibitions. The bunker complex has an atrium (see 3) in its center. The daylight through the atrium is not the main issue; its purpose is to link all components of the project and bring all people together in a maelstrom to celebrate the production, presentation and marketing of the creative art industry.

3. **PANORANIC BUILDING + SKYDECK + CABLE CAR STATION.** The panoramic ring shaped building is the climax, located above the vertical atrium. It is dramatic; partly embedded inside and partly suspended over the hill top and has a tourist office, a restaurant and several shops. On top is a sky deck with an exciting observation tower and a cable car system to the City Hall.

4. **LATERAL BUILDINGS + PASSAGES.** The two embedded lateral buildings contain a hotel with youth hostel and suites on the east side and office spaces on the west side. These buildings are positioned at the openings of both passages running through the hill. The buildings fit seamlessly in the hill sides. Two narrow zigzag mountain paths along their sloping facades connect the two contour paths with the two passages through the hill.

5. **PATHS + FLOWER GARDEN + PAVILIONS + CAMPSITE.** Two elevated contour paths above the forest floor are completely level (horizontal), so people need no effort to walk through the quiet natural forest. The zone in-between the two paths is animated by little wooden pavilions in which traditional arts & crafts are demonstrated and where visitors can participate in workshops. The pavilions can be realized by an architectural design competition and will already be an attraction by itself because of its contemporary state-of-the-art qualities. The zigzag paths pass over the hill through an Arcadian flower garden that makes a relaxing area where visitors can pick flowers and have a break. More towards the South the paths connect to a campsite for backpackers.

6. **ROAD + PARKING FACILITIES.** The current access road can have two parking decks, organically tracing the hill's contour lines, for vehicles and double decker busses.

Belgenmonument Amersfoort © 2016

client: FASadE, forum of Architecture and Urbanism, Amersfoort

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Vania Citraro, Ignacio Rodriguez Vergara Dominguez, Zuzanna Mariola Gąszczak, Flavia Oddi, Dalila Pace, Maura Rotelli, Angela Verrengia

LAVENDER

...open pavilion..

Situated in the periphery of Amersfoort is the Belgian Monument (consisting of a main building, a memorial wall and a garden) under National Monument Status.

It was built as a thank-you by Belgian military refugees during the First World War to keep up their skills.

To memorize its 100-year anniversary, FASadE, forum of Architecture and Urbanism in Amersfoort, organized a design competition to revitalize the monument (by an object, folly, pavilion or land art) as a memorial space for displaced persons in a contemporary way.

Our design is meant to bring people together and make the space and situation function in a more contemporary manner towards past and future.

The space between main building and wall is programmed by an open pavilion in a simple, and for all, functional way that re-connects building and memorial wall.

A floating fragment of garden makes a space that is nested in the heart of the current monument in a natural way.

It is meant for memorials of the First World War and first and for all for displaced persons and their stakeholders; to come together for various activities.

These could be like commemorations, exchange of experiences and information, cooking and eating together, storytelling, local intercultural events, lectures, markets, etc.

The roof is actually a lifted garden fragment under which the gravel path can extend. Between building and wall two parallel cuts are made in the terrain. In-between the gravel is made as a floor under the roof.

The roof holds lavender, the relaxing plant species, that grows up all around without a proper place and that gets a protected situation here as well. As it is all about people, the architecture tries to move into the background.

The underside of the roof is mirror-like and reflects the activities taking place below.

It is a kind of open pavilion that can offer a half climate by metal curtains.

The columns that carry the roof are placed in a way to make three zones that guarantee a varied use.

A stairs that can function as a grandstand completes the connection between building and wall.

The gravel can be made into the stair steps and into a pair of concrete multifunctional elements that function as tables or cooking / exhibition places.

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Tri An monument © 2016

client: Tri Ân Foundation

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Vania Citraro, Ignacio Rodriguez Vergara Dominguez, Zuzanna Mariola Gąszczak, Flavia Oddi, Dalila Pace, Maura Rotelli, Angela Verrengia

TRI ÂN

...deep gratitude for defending freedom..

In Louisville, Kentucky, a diverse group of citizens led by Yung Nguyen, an immigrant from Vietnam, has conceived this idea of a monument of thanksgiving; a place of special recognition for the tremendous sacrifices the American and South Vietnamese Armed Forces made during the Vietnam War in order to give the Vietnamese people a chance to live in freedom.

The foundation's name is "Tri Ân", which means "deep gratitude" in the Vietnamese language.

A site was secured in an existing park dedicated to veterans. It is in Jeffersontown, a suburb of Louisville, Kentucky.

It is situated on a sloping hillside site within a park with other monuments to veterans nearby.

Circulation paths within the monument might organize the exhibits and invite recreational park visitors to visit.

More private areas and seating might provide respite, and allow for passive contemplation.

Three issues will be exhibited:

- 1 the history of the Vietnamese country and its people leading up to the war,
2. the geographical and political divisions that existed within Southeast Asia region,
- 3 images of the land of Vietnam and show the lifestyle of its people.

concept

The conceptual design is made of one simple sheet of paper: it consists of a gate and two rings. People revolve around a central patio and have access to a landscaped garden on the hillside.

circulation pattern

The circulation pattern takes visitors through four zones. The first three zones bring people together; the fourth zone serves families and individuals.

1. entry zone

Nine flag poles, a gate and seven embedded emblems represent the monument as seen from the road. Visitors walk through the gate, in-between the emblems onto a suspended loop that protects another open space below.

2. information zone

A ramp leads down to a circular lower level that has an information zone and a central patio at its heart. A suspended ribbon around the patio displays information:

- printed (Background and History: general introduction on the people and culture of Vietnam),
- and by interactive touch screens (the War with the North: information on the war and its consequences).

3. collective mental zone

For contemplation, reflection and remembrance (Those who Served).

The central patio is a collective space for larger groups up to 100 people. The somewhat sunken floor is covered with over 750.000 crosses that represent all who served and sacrificed. The patio has several trees.

4. landscaped garden

For individual contemplation.

The lower level gives access to the hillside by a second ramp where a series of little natural enclaves are nested. These serve individuals, families or small groups. Several species of climate proof Vietnamese trees, plants and flowers make a peaceful garden.

The gate, floors and ramps are made of white concrete. Balustrades are made of curved glass. All ramps and slopes fit wheelchairs.

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Zarri Beer Lab © 2016

client: Zarri, YAC

status: competition design

design: Monolab

team: Jan Willem with Kuilenburg with Zuzanna Mariola Gąszczak, Andreas Leonidou, Francesco Papa, Francesca Sabatini, Alessandro Maria Volpi

ZARRI BEER LAB

...two breweries in one..

Villa Zarri – one of the leading Italian breweries – wishes to follow the most recent trends of consumption by investing in an ambitious architectural project, which will create a top-quality space for craft brewery. The centre that Villa Zarri intends to create, within a beautiful mid 16th-century villa, will be a sanctuary for all beer lovers – a place where beer tasting will meet delicious food, culture and entertainment, within the framework of architectural beauty. The new architectural structure will give the visitors a comprehensive experience, not only will it be possible to taste the products, but also to learn how the products are made and to go through each production phase, thus enjoying a cultural and entertaining experience. Programmatic requirements: multi-purpose space, shop, laboratory, tasting hall, restaurant, beer accommodation.

In our design the beer brewery is the heart of the Lab which is located in the former aging cellar. All other events are organized around it, like the rings of an onion: tasting experience, restaurant with kitchen, multifunctional space and shop.

LAB

The complete beer making process is exhibited in the heart of the project. Two breweries, in which two beers are crafted in the same time, make the Lab. Visitors can fully experience all steps of the process by tours, workshops or training.

TASTING EXPERIENCE

Around the Lab a series of kitchenettes serves a zone to enjoy beer and food in a more laidback atmosphere. Cooking demonstrations trigger experience with local products. On the two sides of the brewery all ingredients of beer making are part of an aromatic experience displayed in large glass flasks.

RESTAURANT / BEER FESTIVAL ZONE

The restaurant is a more intimate zone in-between tasting experience and shop. Flexible curtains together with crystal chandeliers are place makers. The restaurant can also function as a festival zone that presents various kinds of beers from all over the world. The open kitchen below the mezzanine prepares menus, drinks, starters and desserts. It has an open layout which makes it into a public arena for presentations and workshops.

MULTIFUNCTIONAL SPACE

The multifunctional space is situated on a mezzanine at +1 level with great views onto the whole project.

SHOP

The shop brings local food producers and public together in a product exhibition gallery and a market place with local high quality products. The front and side facades of the building are perforated with clouds of sparkling glass showcases that exhibit local products.

PARK

The Park makes the Beer Lab and Villa Zarri work together. The Park has a number of dedicated places where the current sets of trees already create 'green rooms'. Together with the proposed smaller follies, it makes a domain full of discoveries where groups of people meet. Children have their own dedicated place to build up structures of wood. Villa and Lab both have new extended terraces that lead to a pavilion in the center. The Park façade of The Lab is set back to create a terrace between interior and exterior. This glazed facade can open up completely to make Lab and Park into one. The extended terrace has a canopy which is suspended with cables between trees and building.

MATERIALS / FINISHES

Main materials are industrial, like polished concrete (floors), brass and steel (brewery), wood (furniture) and glass (facades). More luxurious materials are mesh curtains and crystal chandeliers. The Lab has new transparent facades at the entry and Park sides. The entry façade has horizontal louvers above the entry.

© MONOLAB ARCHITECTS

Endless Interior © 2017

status: unsolicited

design: Monolab

team: Jan Willem with Kuilenburg with Sonia Betiuc Rebeca, Jakub Roleček, Irgen Salianji, Giulia Zaffini

ENDLESS INTERIOR

...distilled experiences...

One case can raise awareness: travelling from Rotterdam to Oslo and back on the same day right after a lecture.

It pushes travel experiences together and distills experiences.

Striking is that traveling between Rotterdam South and Oslo central district, which needs four modalities takes place within interconnected interiors of train and metro stations, terminals and carriers, like trains, metros and planes.

It means traveling through one stretched interior without being in outdoor space.

We enter at metro station Wilhelminaplein in Rotterdam South and step into outdoor space at the National Theatre train stop in downtown Oslo.

All these interiors are stretched and are more or less tube-like, as they serve transit.
We move through one endless interior...

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Rebuilding Mosul © 2017

status: competition Tamayouz Rifat Chadirji Prize 2017

design: Monolab

team: Jan Willem with Kuilenburg with Letizia Armentano, Consuelo Cenci, Angelien van der Snel, Alesandro Volpi, Agnese Giovagnoli, Valentina Battilocchi.

REBUILDING MOSUL

...into methods and local communities...

This proposal provides a flexible, modular and residents triggered system for building city blocks and organic urban patterns in Mosul's post war situation. The local authorities and citizens co-operate together to ensure the development of communities.

Local authorities will recycle concrete and steel building materials from the ruins, will define an urban layout (city blocks, organic patterns), will define the streets, alleys and sewer systems and will build the foundations and ground floor modules for the people and returnees as a start. A grid of 4x4m is the base point for the development of the city block. It defines the width of the alleys, the minimum space of a living module and the public spaces. Only the alleys and public spaces are pre determined by planning. The follow up is a result of citizens' initiatives.

The project is based on the use of residential modules made up of prefabricated and cheap structures, through the use of recycled materials such as cement debris from bombed or demolished buildings. Prefab building elements like concrete columns and beams, concrete infill blocks, metal screens, glass folding partitions, rooftop shading structures are made in local workshops. People can choose from a range of accessories to personalize their living modules.

The strategy has guidelines that explain how alleys and public spaces are pre-organized and the modules are given to people. The challenge is to give the citizens maximum initiative. The citizens will have a free choice where the plot of their new home is situated within a given urban layout. The size of the plot and the number of starting modules depend on the number of persons. The urban layout with city blocks or other patterns will gradually be filled up with homes. The citizens will expand their homes over the years with locally made prefab accessories like screens, glass folding partitions, rooftop shading, etc. by themselves. The simple constructive system promotes the use of local manpower and materials.

All new homes have a patio as a functional heart for family activities and micro climate that passively cools and ventilates all rooms by plants and water, as an open place for comfort, family activities and potential business activities. Micro climatic comfort in each city block is tuned by all cooled patios together through shadow, water, vegetation and airflow.

Public spaces and alleys are considered as expansions of the homes and trigger the development of social life as well as the many shops and workspaces that can be located in the modules. People can decide to open their own private spaces to a more public making them part of the public sphere. The "extra" modules and expansions can be used for entrepreneurship, starting a business or can be rented out.

The expansion of residential units will define a neighborhood, or rather a community, based on sharing and mutual cooperation. Public spaces and alleys favor the development of social life as well as the many shops that can start thanks to the possible expansion of the modules.

A process of densification of the city blocks is gradually developing as more people choose their favorite plot and layout. Homes grow in height and width and so does the neighbourhood and the families and communities involved. Expansions can happen spontaneously, horizontally and/or vertically and will take place when citizens will feel the need to have more room. Prefabricated concrete structure is provided also for the future horizontal expansions. A huge variation will occur; every city block or organic urban pattern will keep changing, full of inventions and surprise.

© MONOLAB ARCHITECTS

A circular forest for Nagele © 2017

status: competition

design: Monolab

team: Jan Willem with Kuilenburg with Letizia Armentano, Valentina Battilocchi, Chiara Bertossi, Filippo Cattano, Agnese Giovagnoli, Paola Perazzo.

CIRCULAR FOREST

...surrounding an architectural minefield...

The local community of Nagele is looking for a more sustainable future of their little village.

Nagele settlement is an experiment originating from the 1950's in which new urban layouts and new architectural typologies were being tested.

Renowned urban designers and architects were involved, like Gerrit Rietveld, Jaap Bakema, Mien Ruys and Aldo van Eyck. This urban and architectural heritage is a quite sensitive issue.

Our hypothesis is that a transition of Nagele towards a sustainable future requires a format with adjustable cycles of water, biomass, energy, crop, labor, tourism, products, etc.

We deploy a forgotten parallel component of Nagele, the natural windscreen made of trees around the settlement, in order to avoid stepping into its 'architectural minefield'.

The windscreen, a linear forest, is positioned between Nagele and its surrounding agricultural landscape.

We think it can absorb a number of programs in specific locations, like 'switches', where internal cycles touch external cycles of Flevoland, its surrounding region.

At least ten spots in the forest will be cleared of trees.

These open spots, the switches, have their own specific position along the existing path and are oriented towards axes, streets and buildings of Nagele.

The switches are programmed with collective and/or individual plantations that feed the citizens of Nagele with vegetables and fruits.

Within the plantations additional specific programs take care of cyclic energy loops but also social sustainability loops and small scale tourism.

We expect the chain of switches will develop in due time, will stimulate social cohesion, trigger identity and deliver added values that citizens and guests will be proud of.

For the time being we came up with the following switches:

- An adventurous playground for primary school kids until 12 years. A domain where kids can go wild, where stacks of wood and ropes will be made into huts and towers. Water is dominant and challenges bridges and dams to be built by groups of kids.
- A hangout with a barn for youth until 25 years. The barn is a type of youth club that can also be rented for parties and for example workshops.
- A mini camping for tourists with reservations for eight tents (half labor place / 0,5 fte). Outside the camping season the little house with kitchen can be rented out as a guest house.
- A helophyte filter for water purification that is part of the canal. It can become a beautiful and natural place in the forest, including a pedestrian/cycling path to Schokland along the canal.
- A small scale co-operative geothermic plant that delivers hot water and electricity. A sustainable investment model for the long term. The warm water can make the deeper part of the helophyte filter into a natural swimming pool.
- A warm natural swimming pool with café (half labor place / 0,5 fte). The whole year, summer as well as winter, a steaming natural bath that is purified in a natural way.
- A small harbor for canoes, rowing boats and sloops (half labor place / 0,5 fte during summer). Via the Nagele Canal anyone can now access the IJssel Lake.
- A small scale co-operative bio digester that delivers electricity (half labor place / 0,5 fte). A sustainable investment model for the mid-long term. Biomass collected from surrounding farms will be digested here. The residue will fertilize the land by the same farmers.
- Extra open spots for further initiatives. Examples are a flower/butterfly garden with beehives, hobby locations, a drone field, sporting field, etc.
- An exception is the market place on the central square where crop from the plantations can be exchanged for other assets. Wood chips coming from maintenance of the forest cover the square plot that has a wooden shack with public toilet and storage space for twelve market stables and picnic tables.

The wood of the removed trees is reworked into facilities for the switches. The chopped trees are compensated by planting the same amount in the open spot near the canal on the business park.

All elements in this project are like dials that can be tuned to meet the most optimal synergetic situation for Nagele and its citizens.

manifesto for a balanced city © 2018

status: initiative

design: Monolab

team: Jan Willem with Kuilenburg with Filippo Cattano,

5BRIDGES4ROTTERDAM

...manifesto for a balanced city...

Rotterdam is a divided city.

The Maas River divides the city into a north and a south side. Historically the city core of Rotterdam is situated on the north side. Since the early 1990s hard work on the south side of Rotterdam has resulted in more balance between North and South.

Recent south developments like the Wilhelmina Pier with tall buildings like The Rotterdam and several cultural hotspots are gradually leveling the programmatic and cultural inequality between North and South.

Jan Willem van Kuilenburg of MONOLAB Architects, a Rotterdam based studio, about their 5 BRIDGES 4 ROTTERDAM initiative:

'The growing equality between North and South requires more connectivity. However, the number of current connections is dramatically insufficient: one tunnel, one old and one new beautiful bridge and water taxis try to serve the 650.000 citizens, all commuters plus all tourists on top of that. Paris, Hamburg, Venice, Gent and Stockholm are good examples of cities that serve their population much better by many more connections.

5 BRIDGES 4 ROTTERDAM is a manifesto to heal Rotterdam.

The approach consists of five new bridges that will serve its growing population, propel urban, cultural and tourist developments, reduce segregation and will let ships pass.

The designs are both hardcore and poetic, just like Rotterdam itself:

1. 'Rotterdam Eye' is a monumental cloud of steelwork that brings people to a skydeck overlooking the city.
 2. 'The Flying Gondola' is a big suspended gondola that flies over the water.
 3. 'The Pier' is a programmed steel frame structure with solar panels, a carrier of socio-economic opportunities like little shops and cafes like the Ponte Vecchio in Florence, for pedestrians and cyclists.
 4. 'The Catapult' is a bridge that splits in two directions for pedestrians and cyclists.
 5. 'The Handshake' connects two attempts from both banks that at first sight seem to miss each other.
- All bridges will open for shipping.

We hope that this initiative will inspire decision makers and trigger further developments to make our city a better place'.

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field pavilion © 2018

status: under construction

client: confidential

contractor: GE-Bouw, Venray

design: Monolab

team: Jan Willem with Kuilenburg with Letizia Armentano, Chiara Bertossi, Filippo Cattano, Consuelo Cenci, Vania Citraro, Erika Ferrari, Zuzanna Mariola Gąszczak, Andreas Leonidou, Paola Perazzo, Maura Rotelli, Angeliën van der Snel, Angela Verrengia, Alessandro Maria Volpi

FIELD PAVILION

...a serene panorama behind an old garden wall...

This hide out is embedded in the pastoral landscape of the Maas River Valley near the German border in the village of Vortum Mullum, an old Roman settlement.

We tried to avoid making the standard typology of a pavilion: a floor sheet and a roof sheet with some glass in-between. Instead we made a sequence; an approach in steps, culminating in a panoramic experience, and we tried to make the roof less obvious.

The pavilion has a zoned plan lay-out with two rooms that can be combined to make one space if required. We embedded the space to blend harmoniously with the landscape by sinking it into the soil. When seated the surrounding landscape is at eye level. Below grade it consists of cast concrete, like an excavated historic site of an ancient Roman villa.

All materials and details are as simple and down to earth as possible. Glass is mounted at top and bottom to avoid any vertical frames. The roof disappears in-between a green layer of vines and an abstract white ceiling of corrugated steel. The concrete floor and white corrugated ceiling, kept apart by thin steel columns, create an extended space merging inside and outside. This brings the standard industrial corrugated product an architectural status. Rainwater is spread over the cantilever of the corrugated sheet to make a water curtain at the end of the terrace.

When approaching the pavilion a small and abstract mysterious gold volume stands in front of an old overgrown garden wall. It is only after descending the hidden ramp that one discovers the space and its unfolding panoramic view over the surrounding landscape. From the terrace, the garden slopes up from the sunken level to the fruit trees of a small orchard.

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DESIGN APPROACH BY MONOLAB © 2018

Lecture for FADU - Facultad de Arquitectura, Diseño y Urbanismo, Universidad de la República Montevideo, Uruguay
Author and lecturer: J.W. van Kuilenburg

MINDSETS

...how to design...

The request for a lecture by students from FADU, Montevideo, Uruguay gave us the opportunity to look into the ways we design at monolab.

For the first time ever we consciously looked into a series of our design processes and analysed these in detail.

Our conclusion is that it is all about a specific mindset every time again. Every project is unique and therefore every design process is one of a kind. Each design is unprecedented and it requires a reset of our brains every time again. This means we have a different process, different team work and different personalities to meet every new assignment.

We tried to group data from a cloud of findings which gave us eleven conclusions. Application of these conclusions does not make one a designer. Design requires repetitive experiment over years and years of training. The conclusions might help one to become a better designer.

So this lecture was not the usual one with exciting images, models, renderings and drawings. Instead it was a series of just twelve slides with text. Nevertheless, it describes and comprises our design approach.

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GREEN PARADISE © 2018

status: international design competition

client: UNDP - United Nations Development Programme, Phnom Penh special economic zone, Cambodia

design: Monolab

team: Jan Willem with Kuilenburg with Rositsa Atanasova, Federica Minervini, Alan Shadap

GREEN PARADISE

...an urban tissue for affordable housing, based on social coherence, building simplicity, user flexibility and passive sustainability systems...

Green Paradise is a constructed wetland with residential units and a fruit forest.

Social Coherence

Reduced height of the project, little squares and pedestrian streets create a friendly atmosphere. At city floor level community clusters are made in the constructed wetland around private and green open air patios. People meet each other also on the roof deck, where we propose a private park with local harvesting of edible crops and fruits. In between city floor and roof deck are two levels of residential units.

Building Simplicity

The building has a simple concrete structure of floor slabs and columns. It is perforated by public pedestrian streets and patios to allow light and ventilation into the residential tissue. A system of wooden decks, galleries and stairs at all floor levels connects all units.

User Flexibility

The simplicity of the single residential unit makes it easily adaptable to different configuration: single (6x6 m), couple (6x9 m), family and multi generation (6x12 m). Citizens are able to expand the units from one single to become one and a half or double by means of removable and adaptable stabilised mud bricks. The use of sliding panels and curtains makes the internal subdivisions easy to organize and adaptable to different user's needs. Entrepreneurial units for business development are located at the city floor level.

Passive Sustainability Systems

Constructed wetland & water purification system: the proximity to the river provides a constructed wetland below the project. The use of helophytes will clean the water flowing through the site.

Passive cooling system: airflow over the wetland provides cool air to circulate through all patios and up to the fruit forest. The units are ventilated by the open facades and the cavities inside the mud brick walls between units.

Shading strategies: A system of curtains, metal mesh, lamellas and glass provides shading and airflow and organizes the lay-outs of the units.

Energy systems: The roof deck is shaded by the vegetation and includes fields of solar panels that will supply electricity for public LED lighting, public WIFI and the water pumps in the wetland.

Local materials: The units incorporate locally available materials such as stabilized mud bricks for the unit walls and wood for the galleries and stairs.

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HOTSPOT © 2018

status: competition - 2nd prize

client: Korea Land & Housing Corporation - regeneration of Tongyeong Dockyard

design: Monolab

team: Jan Willem with Kuilenburg with Rositsa Atanasova, Alessio Gasbarro, Federica Minervini, Joshua Pagano, Alan Shadap

HOTSPOT

...a play with land and sea...

As the city of Tongyeong faces increasing tourism due to its coastal qualities, this design transforms the decommissioned dockyard into a lively and eventful place for both local citizens and tourists. The project welcomes visitors and offers an interesting and exciting experience with an array of attractions that all interact with both land and sea.

RE-USE & TRANSFORMATION

The transformation of industrial heritage, such as the cranes into a multifunctional stage and clubs, warehouses into a food experience, a pier into a cruise jetty and office buildings into a hotel, are the start of our initial layout. Reusing these elements, HotSpot aims to maintain the historic industrial identity of the site while offering visitors new programs: a series of loft-penthouse buildings over an urban glass gallery, a food court with a Food Academy, a pier for cruise ship arrivals, an artists-in-residence cluster, night clubs, sports facilities, a multifunctioning theatre and a hotel.

FRAME & DOMAINS

HotSpot is framed by a closed loop, a wooden coastal boardwalk along the quay that also contours the site along Donam-ro road. The two piers have paths that lead to the main entry of HotSpot which is a hotel composed of four buildings under which an urban foyer with services is nested. A green ribbon connects one of the piers, the cruise ships pier, to the Mireuksan mountain top with the existing cable car attraction. HotSpot defines domains for food and education, arts, sports, water courts, residence, retail and an urban stage. A big pontoon moves tourists and products between Tongyeong center and HotSpot to enhance contact and trading between the north and the south part of the city.

ATTRACTION & EDUCATION

All domains encourage new flows of people and locals while enhancing the city's economic wealth and awakening of Tongyeong's hidden qualities. The attractions guarantee perceptual diversity, enhance scenic water/land qualities, and mime the nature of an energetic urban environment. Arts, sports, commerce, leisure and educational activities form together a new, bustling area of the city of Tongyeong.

BACKBONE & GALLERY

Along Donam-ro main road we propose a backbone of stacked penthouses with wide panoramic terraces overlooking the site as a catalyst for permanent residence. Private parking, bus stops and taxi services can be found here too. The first floors below the penthouse units are used for services such as shops and restaurants. A glazed gallery leads people onto the coastal boardwalk. Part of the units confining with the food court are programmed for a Food Academy, where students further develop the fusion of local land and sea based food products.

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CRYSTAL PALACE © 2018

status: competition Smart Square

client: BAI - Bosch Architecture Initiative with the Municipality of Den Bosch

design: Monolab

team: Jan Willem with Kuilenburg with Alessio Gasbarro, Joshua Pagano

CRYSTAL PALACE

...a flexible and communicative space for experiments...

This assignment is located in the rail zone of Den Bosch, a history of modernity and experiment. The area will become a breeding ground for experts, students and startups. It is the 'living citylab', with room for innovation and experiment in public space. The design has to bring people together, as a meeting place for groups of 30 - 50 people during all seasons of the whole year. It is a window and test location. It has to be flexible and mobile, i.e. moveable after a period of five years. The budget has a maximum of E 40.000. It has to be circular and will contribute to a sustainable city.

Crystal Palace is a space for experiments;
open, welcoming, hip and creative.

The project as a whole is sustainable;
modular, simple, mountable, demountable, movable and expandable.

The entire project consists of second hand reused standard building products;
that together make an advanced architecture, as a follow up of the Eames.

The base is a Venlo type greenhouse;
together with nine sea containers in a flexible and expandable layout, an open plan with places for food, storage, tech, restrooms and office.

The plan is dynamic;
by a series of curtains that swiftly can define spaces: multi functional, flexible, transparent and adaptable.

A revolving expo space;
makes an innovative urban window along the perimeter in which also individual and team work can happen.

Interior and exterior work together and are interactive;
and realize open co-operation, freedom for various co-working formats.

The glass roof;
can be provided with a PV foil coupled to warm air climate control.

A semi transparent ceiling screen;
protects the interior climate against heating up.

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AMELBERGA © 2019

status: competition Contrei Live - Leiedal

client: Intercommunale Leiedal and Municipality of Avelgem

design: Monolab

team: Jan Willem with Kuilenburg with Antonio Calisai

AMELBERGA

...a water based performance in five scenes...

In 2020 the Leiedal territory in Belgium, made of 13 municipalities and towns, exists for 60 years and to celebrate this the Contrei Live art route will be the core of the festivities. The space and landscape of Leiedal will have a focus on water in and around 16 different sites.

This design is about the Amelberga Church, originating from 1875, in the village of Bossuit. The church will be the epicenter of a series of water based performances in which the public participates.

Two issues have steered our design.

1. After the church structure became unsafe, its roof and interior have been removed in 2008. A competition for transformation of the open church was won by Ellen Harvey. She designed a terrazzo floor with a shadow pattern of the church ruins after the 1st World War and the structural lines of the former roof structure.

2. The myth of Amelberga from the House of the Pippiniden says she saved people in the 11th century from giant fishes that emerged from the Zenne River in Vilvoorde and later also from the Schelde River in Temse. A large fish would have taken her on its back across the Schelde River. After her death her coffin sailed on the water without rowers and accompanied by a giant fish. Every year in Temse the Wegom is still a pilgrimage of 23 km along the old borders of the parish, where a series of chapels in different places honor the Holy Amelberga of Temse.

Our design is made of 5 scenes.

scene 1

A procession of participants will pump water from De Schelde and thereby fill a large fish on a medieval wooden cart.

scene 2

The procession brings the fish into the church through the main entrance.

scene 3

The water is pumped from the fish along the church tower to a gargoyle on top of the tower. This spits the water on a construction of semi-transparent tensile membrane that is stretched between the old walls via steel cables. The steel cables follow the structural pattern of the original church and the lines of Ellen Harvey's terrazzo artwork on the floor.

scene 4

The water makes a very thin water curtain in the shape of a rectangular space. The participants step through the water curtain into this space and then see a digital projection on the water curtain that surrounds them. The projection shows the significance of water for the emerging generations.

scene 5

After the performance the participants leave the church through the main entrance, accompanied by the flowing water on the terrazzo floor.

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AMELBERGA © 2019

status: competition Reimagining the DL&W Corridor

client: The Western New York Land Conservancy, Buffalo, New York, USA

design: Monolab

team: Jan Willem with Kuilenburg with Joshua Pagano

LOOP

...A Multi-Use Urban Nature Trail and Greenway...

The Western New York Land Conservancy invites designers, architects, landscape architects, urban planners, and artists to submit visionary concepts to a juried competition laying the groundwork to transform the abandoned, 1.5-mile DL&W rail corridor into an iconic, innovative, and inspiring multi-use urban nature trail and greenway. The elevated DL&W rail corridor connects Buffalo's downtown with its waterfront through three distinct and historic neighborhoods. The proposed trail and greenway will be transformational for these Buffalo neighborhoods and post-industrial waterfront, and will contribute to the region's incredible ongoing renaissance.

LOOP unites two trails: the DL&W corridor and the riverfront.

Both culminate in two important points: the DL&W Terminal for tourists and downtown and the Half Bridge as an event platform.

The DL&W Trail for walking is a stretched Botanical Park with a series of highlighted natural pockets with educational and relaxing attractions that connects to the local neighborhoods by ramps and stairs.

The Riverfront Trail for cycling and walking has a series of recreational attractions.

Loop has three dedicated amenities:

1. Perry can have a Solar Farm on six vacant blocks, contributed by Tesla Gigafactory.
2. Old First Ward can develop the vacant rail zone into a community Garden Project. The Solar Farm and the Garden Project are then connected by a loop of solar trees.
3. Valley can develop the vacant Buffalo River Place Building linked to the DL&W Trail.

Attractions on the DL&W Trail are inside the Botanical Park and are made by natural pockets and also decks along narrow mounts.

Attractions on the Riverfront Trail are spots and little pavilions on the waterfront that can be defined and programmed by the local people and communities of Perry, Old First Ward and Valley.

DL&W Trail is made of woodchips as a natural path among grouped, regional tree species, like Larch, Eastern Redbud, Beech, Flowering Dogwood and Pine.

Crossings and elevated parts of the trail will be made of historic, weathered steel bridges. Cantilevering decks with soil on top will be made of concrete.

Riverfront Trail is made of smooth red colored asphalt for walking and cycling, closely together with the river edge.

Both trails have dedicated public lighting and tree stump seatings.

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RETHINKING MELBOURNE'S PARKSPACE © 2019

status: The Future Park Design Ideas Competition

client: University of Melbourne with the Australian Institute of Landscape Architects (AILA)

design: Monolab

team: Jan Willem with Kuilenburg with Antonio Calisai, Piermario D'Ortona and Francesco Filomena

PARKSPACE

...A continuum of three new park typologies...

Melbourne's rapid millennium growth has reshaped the city centre and inner suburbs into a denser urbanism. This population growth and densification raises questions over the capacity of existing parks to meet the needs of the contemporary city. This competition seeks to enhance the role of landscape architecture and the public realm in Australian cities.

We have developed a strategy that avoids reclaiming a big urban domain for a new park. Instead we reasoned from Melbourne's current situation that tells us that connecting existing green spaces can deliver new park typologies with sufficient capacities.

Park Space is a combination of three new typologies of green spaces: Sky Park, Green Rooms and Green Ring. Sky Park and its four Green Rooms together make a new green downtown heart for Melbourne which is then embraced by Green Ring. Green Ring connects and delivers new interpretations of Melbourne's urban interior and its context.

1. SKY PARK (51 hectares)

Sky Park is made as a cloud of green, connected and variably programmed downtown rooftops, as an elevated downtown pedestrian paradise.

It will be developed by private property owners and investors that feel eager to participate.

It has a pedestrian loop in the sky like a meandering, extended and adventurous path that jumps from rooftop to rooftop via air bridges.

It is like a multi staged experience; every time another green surprise at every next rooftop.

Programs that usually do not exist in downtown conditions can be found here.

Sky Park is connected to the downtown city floor by six elevator-stairs combinations; two along Swanston Street and four at each corner, connecting Sky Park to the Green Rooms.

2. GREEN ROOMS (215 hectares)

The four Green Rooms already partly exist and are made from snippets and larger pieces of existing green space.

They all connect to the city core with Sky Park and are re-defined to be recognized and used as four green landscaped rooms.

The Rooms improve the urban micro climate.

Each room has its own specific theme that we found are already present:

1. education,
2. urban sports,
3. creative industries,
4. mixed programs.

During a later phase Green Streets can make connections inside the rooms, weaving a new typology of urban park tissue.

3. GREEN RING (211 hectares)

Green Ring is made of existing suburban and natural green spaces, linked together by green streets that are designed through the principles of Shared Space, in which all users of the public domain have equal access and in which boundaries between different users and modalities no longer exist.

Vehicles that are used to be served primarily are now visiting a more open domain full of pedestrians and will be more empathic and careful.

Green Ring is a new linear park typology, like a DNA string, with connective, absorbent and inclusive qualities for the neighboring districts.

It embraces the urban core of Melbourne and connects Melbourne to its upgraded waterfront, its surrounding districts and to its more peripheral natural territories.

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POLICE STATION © 2019

status: prototype

client: confidential

design: Monolab

team: Jan Willem with Kuilenburg with Rositsa Atanasova, Filippo Cattano, Erika Ferrari, Federica Minervini, Alan Shadap

MODULAR

*....a transparent, open, light, inviting and adaptive architecture....***EXAMPLE**

Our approach starts from an overview of possible building typologies from which we have elaborated one example, an atrium typology. In this prototype we discovered that cavities in the building, in the form of a 'divisible atrium with an open roof' and a 'large corridor' on the first floor, can provide the surrounding work environments with greenery, views, air, sun and daylight and social space. We have built the prototype, digitally, with the module dimensions 120/240/360/720/1440 that perfectly match all industrial building products up to and including the 30x30 cm sidewalk tiles in the visitor foyer. The principle of repeatability does not lead to repetition but to a transparent, open, light, inviting and adaptive architecture by use of minimal resources.

ACCESSIBLE, FUTURE-RESISTANT, SAFE, FACILITATING AND PROGRESSIVE

We have searched a prototype with team and individual environments that is open, transparent, flexible, adaptable, reusable, cheap, quickly buildable and energy efficient with a beautiful, flexible working climate and with a positive and active architectural appearance. As a first step, we have designed an overview with a wide variety of possible building typologies based on modular thinking and, as a second step, we have elaborated one prototype as an example to make the "ins & outs" of our approach transparent.

PROACTIVE SERVICE

It is important that the public functions and areas of cooperation with external partners are at the front and that they are received and hosted in the heart of the building. The public and partners are then surrounded by all functions, as in an active hive.

FUTURE-RESISTANCE AND SUSTAINABILITY

We apply three principles: 1. the easier a building is assembled, the easier it can be transformed. 2. the more generic and robust a building, the easier it can be used and reused. We are going one step further than recycling. From a structural point of view, a building is only really circular if the components that make it up can easily be reused for rebuilding. 3. In terms of energy, the building must be energy neutral and that is possible with the help of solar panels.

VISIBILITY OF POLICE PROCESSES - OPEN LOOK

Because we avoid a container-like construction, we can realize an open architecture with great user flexibility. The concept is aimed at open buildings where all exterior and interior facades are transparent and glazed and where privacy can be arranged with screens, blinds and curtains. Glass is reinforced and / or semi-transparent. To prevent large façade surfaces and to emphasize the human scale, the vertical glass profiles protrude like fins from the facades.

WORK PROCESSES / FLEXIBILITY / MULTIFUNCTIONALITY

The floor areas with a depth of four modules (14.4 m.) Make all possible work processes possible and guarantee many possibilities for logistics and traffic flow. Floor fields of two or three modules wide are also possible and have a reduced multifunctionality.

ADJUSTABLE MODULARITY INCLUDING LARGE SPACES

The modules of 3.6 x 3.6 m are extremely suitable for flexible work forms and for the application of industrial building products. A number of spatial basic typologies are possible that lead to many alternative building forms and masses. Patios and atriums are important within the building mass as 'oases' that greatly improve the working qualities by sunlight, vegetation, fresh air, visibility etc. and make larger meetings or events possible.

URBAN EMBEDDING

The 3.60 x 3.60 m modules guarantee equal conditions in four directions. This allows versatility and adjustments on all sides. Buildings can easily be adapted with curves, cut-outs and terraces.

REALIZABILITY

Dry assembly and disassembly guarantee a quicker and therefore cheaper construction and renovation process.

CONSTRUCTION

Assembly and dismantling is extremely easy with a limited number of components. Floor tiles and flat roofs consist of concrete channel plates that are hoisted in and are laid on steel box frames without the usual wet concrete top layer. With steel frames, that support both floor elements and facades, we will avoid columns that would delay construction. The frames are only required in two types: type 1 is open to all facades and type 2 has an X and acts as a bracing element in a few places. The facades are supported by vertical fin-like mullions. The floor elements, frames and facades are dry mounted and can easily be easily dismantled and reused. Reusable robust carpet tiles are laid directly onto the concrete floor elements.

INTERGRALITY

Floor elements, frames, façade packages, interior walls, floor coverings, climate installations and vertical logistics are coordinated with each within the 1.20-m modular system in order to be dry mounted and dismantled.

CLIMATE TREATMENT

Deep interiors can have internal climate treatment that is electrically controlled and have a lowered ceiling zone as a backbone. The spaces along the envelope are naturally ventilated via the facades. Coated glass is used to prevent solar heating. Also horizontal slats are used on the south side and vertical screens on the east and west sides.

WORKING ENVIRONMENTS

We show a number of environments for the interior: from individual, quiet and closed to team-oriented, dynamic and open. It varies from office work to consultations, meetings and presentations to events.

MONUMENT FOR SILICON VALLEY © 2020

status: conceptual design

design: Monolab

team: Jan Willem with Kuilenburg with Tania Buffangni, Angelo Desole, Francesco Filomena, Sara Idaly

CROWN OF HOPE

...a place for the healing of our eco systems...

A monument for Silicon Valley.

In our era monuments no longer are vehicles to memorize, to look back.

Landmark monuments these days require more than just their visual appearance.

Contemporary monuments are to look ahead and take up responsibility.

Our opinion, that they should be operational for a better world, has steered this design.

A new landmark for San José in this light should be a permanent, 24/7 state-of-the-art world expo.

In our current era Silicon Valley has a new & shared responsibility that transcends the stand-alone core businesses of its corporations.

Coalitions of Silicon Valley's corporations, businesses and stakeholders together with universities and concerned experts from all over the world can integrate accumulated intelligence and find ways to heal global issues, like our suffering ecosystems.

Carried by a warped simple steel grid with walkways, Crown of Hope holds an ever-changing constellation of labs, greenhouses and facilities that are mounted and demounted by cranes that ride the circular trajectory on top.

The whole project harvests its own energy demands by solar cells on top of labs and walkways.

The curved cloud of labs, greenhouses and facilities grows a community of scientists, students and the public, that all demand to be informed about progress.

This collective will proceed to heal our global eco systems that are suffering under huge pressure of man and climate change.

The project is a public arena that brings experts and people from everywhere together with venue facilities, the world's biggest communication screen and a botanical garden at its heart.

In this garden, paths lead to air bridges and a suspended foyer from where visitors can choose from different thematic tours along state of the art research labs and exhibitions.

All tours are very specific, lead visitors over galleries along critical paths through the cloud of discoveries and deliver a deeper understanding of urgent global issues.

Crown of Hope is an operational maelstrom of dedicated exponential intelligence.

It is time to take up this challenge and act.

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PARC OMEGA - RADICAL INNOVATION © 2021

status: conceptual design / honorable mention

design: Monolab

team: Jan Willem with Kuilenburg with Ramona Ilmer, Yannick Schop, Gian Maria Minelli

SEVEN TALES

*....into a world of deep natural explorations....***dispersed hotel program**

Parc Omega offers the opportunity 'to think and design natural' in terms of a new approach to the hotel facilities. The Parc has a variety of domains and qualities. Instead of approaching 'the hotel' in a standard way (as one building or an ensemble of buildings), we have spread the hotel facilities over the Parc. Instead of elevators and corridors we have designed a new constellation of accommodations and facilities that are strongly related by paths for walking, cycling and electric carts. The spread facilities give all guests the deepest experiences possible, within the different ecosystems and landscapes of Parc Omega. Instead of a hotel overlooking nature, Parc Omega will offer amazement by seven deep natural experiences, spread, and embedded in a world of exploration. A family of seven mysterious wooden facilities will be bonded through the road network and added explorative paths for hikers, cyclists, and electric carts. The seven facilities together make a networked hotel, of which each individual part becomes a unique place for memorable experiences within nature.

logistics

The dispersed approach challenges the logistics in terms of guests, food, cleaning, personal and support. Parc Omega already has a road system. We have connected the seven projects by the road system and by new paths for walking & cycling and for carts. The 4-person carts are electric, free to use by guests, and are parked at charging stations at all seven facilities. Dedicated electric vans are for personnel and transport of goods and catering.

new typologies embedded in nature

If we look at the landscapes in section, we can distinguish several natural layers: sub terranean, at the landscape floor, among the tree crowns, and over the tree crowns. The facilities are embedded in their own way in one or more of these layers, and this leads to various types of design. All have their own specific construction, and all are built of wood. The dispersed hotel facilities are tuned to the specific natural conditions. We have made different specific designs for seven hotel facilities: The Leaves, The Crown, The Flowers, The Nests, The Glacier, The Roots and The Rocks.

the leaves

The foyer as the central facility of the Seven Tales hotel is situated at Lac à Vézina's North shore. It welcomes the guests and offers parking spaces by three 'discs' in the forest. A gravel path brings guests onto the foyer wood deck that has several programs in colored glass volumes. A 'forest' of tree trunks carries a wooden 'leave' overhead. The two wooden sheets (with oak leaves shapes) together deliver an open-air foyer with its programs captured in colored glass shapes. The restaurant has a terrace over the water. Guests that booked accommodation or a conference can continue their journey with electric carts that are at the flower shaped docking stations, or they can also decide to take a free mountain bike or go hiking. Its biome is aquatic- forest, a breezy introduction at the edge of lake and forest with deer and fish. The program consists of a foyer, lobby, reception, central kitchen, restaurant, mobility hub, shops, and parking.

the crown

This centrally located facility is situated among and over the forest tree tops. The Skydeck on top of two decks with various sizes of guest rooms has facilities for the guests, like food, drinks, and an observatory. A ramp and elevator give access. The complete facility is made of a CLT wood structure. Constructed tree-like timber columns support the three ring-shaped floor levels. Its biome is forest with panoramic vistas over the treetops of the parc with deer, bears and birds. The program consists of accommodation, sky deck, café, lunchroom, and restaurant.

the flowers

Naturally shaped units are organized in circles with a shared center for play, wood fires and barbecues. Outward orientation connects to the natural ecosystem surrounding the facility. Two larger units contain service facilities for sanitary and food preparation. The whole setting functions like a campsite. The Flowers are made of CLT frames with wood shingles cladding. Circular glass doors enhance observations of animals and natural experiences. Its biome is forest with an intimate constellation on the forest floor. Wildlife is deer and small forest species. The program consists of accommodation, shared sanitary and kitchen.

the nests

Coupled nests are floating on the lake. They have extended panoramic views onto the surrounding nature. Each nest has a sanitary core with kitchenette that is situated between the round plan layout and the monumental entry. Each unit has two double beds and a seating area. One bigger nest has a circular jetty that makes an outdoor swimming pool and connects the two sides of the lake. Indoor we find a restaurant with indoor pool and dressing rooms below. All nests are made of CLT wood frame structure, with covers of shingles, on top of prefab fiber concrete basements. Its biome is aquatic, shelters low on the lake with deer, fish, and beavers. The program consists of accommodation, indoor/outdoor pool and catering.

the glacier

A crystalline shape plays with transparencies and reflections, unexpected amid the forest. This conference center has a dividable auditorium with flexible retractable seating, break out rooms and a kitchen with bar and facilities for breakfast, lunch, and dining. Two terraces are on top, one for visitors and one for conference guests. The CLT frames are deep to make the spans. The whole volume is kept as low as possible for human scale and to fit the scale of the surrounding woodland. Its biome is open woodland and crystalline transparency with deer, bison, and wolves. The program is a conference center with kitchen and restaurant.

the roots

Coupled units are hidden, embedded in the terrain at the forest edge. Partly subterranean, they offer panoramic views over the forest/tundra landscape. Five units are coupled around a central entry point with ramp. From these units, animal life and landscape can be observed undisturbed. Its biome is forest tundra with panoramic vistas over the tundra-taiga floor. Wildlife is caribou, wolves, foxes, and small forest species. The program consists of accommodation with individual sanitary and kitchens.

the rocks

A line of rocks holds fifteen individual units to stay. The rocks are made of CLT wood and covered by shingles and sedum. The wood structure is kept partly open at the interiors to offer storage space. Perforations allow specific experiences of the surrounding nature. The coupled rocks hold a wellness center with various baths and a Finnish sauna. Its biome is rocky forest, dynamic scenery in a forest clearing behind a rocky hillside with mountain goats, ibex, bears, and wolves. The program consists of accommodation, wellness, and catering.

HOUSE FOR A PRIVATE CLIENT © 2022

status: design phase

design: Monolab

team: Jan Willem with Kuilenburg with Marta Criado Galarza, Elisa Mazzoni, Enea Sorci.

PLAYFIELD

...a residence with predetermined lack of architectural features for a private client in The Netherlands...

It started as a design for a house of 14.40 x 14.40 m for two people in the countryside on a plot along a dike aligned with trees and agricultural land on the other side.

non-architectural

The way the house looks is not defined ahead and is a result of simple principles at the conclusion of the design process. The design has a predetermined lack of architectural features and thrives for neutrality. Materials are re-mountable and as basic, simple, natural and/or recyclable as possible.

generic and neutral

The design of Playfield is generic and neutral and accepts standard building products and components. The 1.20-m industrial standard is a very useful basic dimension that fits the personal space of a person as well. The main challenges are to offer a programmable field for living options with the least of fixed functionalities, and to keep the main space as open and related to its surroundings as possible.

positioned

The main floor is situated three meters above grade and makes the house ready for rising water. Three different worlds are stacked: landscape, living and deck.

panoramic

The square floorplan is point symmetric with three structural bays of 3.60 – 4.80 – 3.60 m. The two central bays together make a cross from side to side with the 4.80 m span. The cross has panoramic qualities parallel to the dike and primarily between dike and agricultural landscape.

zoned

The floorplan with the three zones and the central cross has four corner fields in diagonal orientation. This classic plan layout with nine fields triggers many variants of possible space use. The grid allows an adaptive layout by means of the zoning of interior, half climate and exterior.

open and flexible

The floorplan is open and playful, allowing many possible user scenarios. The horizon of the interior has little obstructions and visually coincides with the horizon of the countryside. Primary and secondary beams have the same height and together make coherent and structural ceilings over both ground level and living. Programs that would obstruct the openness, like entry, storage, sanitary and services, are situated at ground level and are covered in vegetation as part of the agricultural landscape. The kitchen in the living is kept low as a piece of furniture. The design has a library of accessories, like dedicated flexible partitions and furniture types on wheels. The deck has a free layout for outdoor life, with options like a tent structure and solar panels.

sequenced

The approach at grade is from the side of the dike with the framed panorama in the central cross, with entry on the left. Entering the house follows a loop between the panorama at grade and a big, open panorama at the living. The stair to the living makes people move away from the landscape and arrive at the living in the central cross again, but now inside the huge panorama that opens more and more. The stair to the deck is on the mirrored, opposite side and offers the same sequence towards an ultimate 360-degree panorama at deck level. Both stairs fit within the secondary beam structure of floor and deck and emphasize the sequences of moving from one world into the next.

soft edged

The house has a soft edge by an outdoor 1.20-m cantilever on all sides of the living. The physical footprint of the house at grade is minimal because large part of the ground level is open. The deck has a minimal volume for the stair and has options like a flexible tent, areas of solar panels, and plant life.

simple and hands-on

The maximized use of wood, the standard industrial dimensions, and the limited sizes and weights of building components make a high level of DIY. The layout of the column grid is defined by standard-sized underlayment floor sheets in clean cut dimensions of 1.20 x 2.40 m. The plan layouts of both floor and deck sheet are defined by multitudes of the 1.20-m basic grid. The secondary structure of wooden beams and standard underlayment floor sheets are oriented between dike and landscape and thus enhance the perspectives that catch spectacular panoramas. The cantilever is made by double secondary beams on both sides of the columns. The glass facade is without vertical supports and has silicon joints at 1.20-m grid lines. Balustrades are made of stainless-steel cables for maximum transparency. Interior partitions are in four types; pivoting panels of 2.40-m wide, folding panels of 1.20-m wide, and wood frames with glass, polycarbonate sheets or opaque finishes.

evolutionary

During design it became apparent that the spatial layout of the design could facilitate many more user scenarios; from a couple to a family, from having a practice at home to a residential group up to eight members and even to a standard housing plan layout with several separate rooms.